APPENDIX A

COMPREHENSIVE MOTOR VEHICLE SERVICES AND CONSULTING

MOTOR VEHICLE FORENSIC ANALYSIS REPORT

CMVSC-18-IA-245

-- In the Matter of the Death of Edson Thevenin --

LOCATION OF EVENT: Alternate Route 7, Troy, New York

TYPE OF EVENT: Three Vehicle, with One Causal Dynamic Motor Vehicle

INVOLVED DYNAMIC SUBJECT VEHICLE: 2000 Honda Civic EX Two Door Coupe

SUBJECT VEHICLE OPERATOR: Edson Thevenin

DATE OF EVENT: April 17, 2016 @ 0330 hrs.

REFERENCE NO.: Troy (New York) Police Department BC38338

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CMVSC-18-IA-245

IN THE MATTER OF THE DEATH OF EDSON A. THEVENIN

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VEHICLE AUTOPSY FORENSIC INVESTIGATION SUMMARY

Case No: CMVSC-18-IA-245

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Dept.

At the request of officials of the Troy, New York Police Department, specific additional motor vehicle forensic investigative and crash reconstruction procedures were initiated relative to the operation of a passenger vehicle which resulted in a multiple vehicle impact, culminating with the police officer involved shooting of the driver thereof, in the city of Troy, New York on Sunday, April 17, 2016 at approximately 3:30 AM. The focus of the supplementary investigation included the post-crash forensic vehicle analyses of the causally involved, dynamic 2000 Honda Civic EX two door coupe bearing New York registration FYZ9818, as well as crash damage analyses and Crash Data Retrieval Report review with respect to the additional two static motor vehicles involved in the event. The actual vehicle autopsy forensic procedures and associated component analyses were conducted on April 18th and April 19th, 2018, at the Troy Police Department Garage facility located at 1652 5th Avenue in Troy, New York. Photography at the vehicle autopsy location was performed by utilizing a Canon EOS 6D digital camera with standard and macro lens attachments; Digital Bore Scope; and Digital Microscope.

Opinions expressed by this report include incorporation of review and assessment of related investigative and reconstruction material of assigned investigators of the Troy, New York Police Department as well as others retained prior to this vehicle forensics analyses. Moreover, specific applicable information obtained through comprehensive research of Honda vehicle manufacturer specifications, campaigns, and technical design data are also incorporated as a basis for opinion herein.

BACKGROUND/OVERVIEW OF THE CASE

On Sunday, April 17, 2016, at approximately 0310 hours, Troy (New York) Police Sergeant Randall French initiated the traffic stop of a 2000 Honda Civic EX two door coupe operated by Edson Thevenin (DOB 06/30/1978) "*on suspicion of* (operator Thevenin) *driving while intoxicated.*[1]" The traffic stop, which occurred on 6th Avenue between Jacob Street and Hoosick Street, resulted in Edson Thevenin reentering the driver seat of the 2000 Honda Civic and fleeing the traffic stop location after failing field sobriety testing conducted by Sergeant French. Sergeant French then engaged in a pursuit of the fleeing 2000 Honda Civic operated by Edson Thevenin, and was soon joined by a second police vehicle operated by Troy (New York) Police Captain Matthew Montanino. The pursuit of the 2000 Honda Civic operated by Edson Thevenin terminated after a distance of approximately .2 miles due to left frontal impact with the concrete highway divider of westbound Alternate Route 7 near the entrance to the Collar City Bridge.

Subsequent to left frontal impact with the concrete dividing barrier, Edson Thevenin placed the transmission selector of the 2000 Honda Civic in Reverse and initiated acceleration, backing the vehicle on the paved roadway and resulting in impact with the frontal area of the police vehicle operated by Captain Montanino, which was stopped in a westerly direction within the left lane of westerly vehicular travel of Alternate Route 7 to the rear of the 2000 Honda Civic. Operator Edson Thevenin next placed the transmission selector of the 2000 Honda Civic in a forward gear, accelerating the vehicle in a westerly direction on Alternate Route 7 in the direction of Sergeant French, who was now standing along the left (driver) side of his marked police cruiser which was parked in an angled position on Alternate Route 7

1 *See* Report on the Investigation into The Death of Edson Thevenin, New York State Office of the Attorney General, page 4.

slightly westerly of the concrete barrier impact location. The 2000 Honda Civic operated by Edson Thevenin ultimately came to a final rest near the left rear of the marked cruiser of Sergeant French.

Prevailing road surface conditions of Alternate Route 7 in the vicinity of the event were that of dry asphalt surface, clear from apparent debris/material.

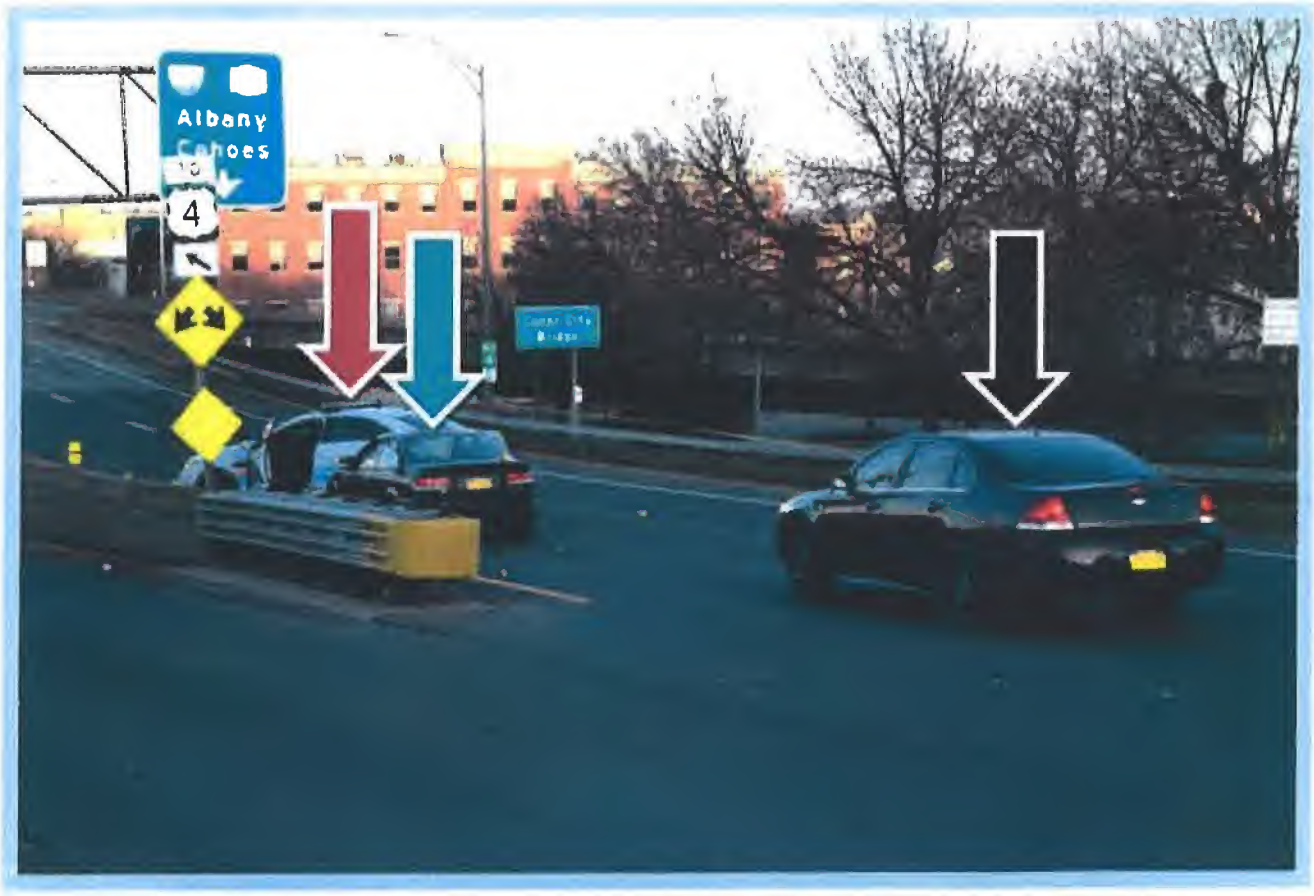


Image No. 1 This photograph, courtesy of the Troy (New York) Police Department, depicts the scene of final rest of the three involved vehicles with respect to the events of April 1st, 2016. The Red Arrow denotes the 2013 Ford Taurus police cruiser operated by Troy Police Sergeant Randall French. The Blue Arrow denotes the 2000 Honda Civic operated by Edson Thevenin. The Black Arrow denotes the 2012 Chevrolet Impala police sedan operated by Troy Police Captain Matthew Montalvo, which had been moved rearward from its actual final rest location.

TRAVEL ROUTE, PRE-CRASH TRAJECTORY, AND SCENE LOCUS

The traffic stop of the 2000 Honda Civic operated by Edson Thevenin was initiated by Troy Police Sergeant Randall French on 6th Avenue between Jacob Street and Hoosick Street in the city of Troy, New York, on Sunday, April 17, 2016 at approximately 0310 hours. Fleeing the scene of the traffic stop after allegedly failing Field Sobriety Testing, Edson Thevenin operated the 2000 Honda Civic in a northerly direction on 6th Avenue; then negotiating a sharp right turn onto Hoosick Street and traveling in an easterly direction; then negotiating a left u-turn onto Alternate Route 7 (Collar City Bridge) westbound. During this course of vehicular travel, Troy Police Sergeant Randall French had engaged in pursuit while operating a 2013 Ford Taurus Police Interceptor Sedan, fully marked as a Troy Police vehicle.

After completing the left u-turn from Hoosick Street onto Alternate Route 7 (Collar City Bridge), the 2000 Honda Civic operated by Edson Thevenin impacted the left side roadway concrete barrier which separates the two westbound lanes of Alternate Route 7 (Collar City Bridge) from the westbound and eastbound lane of Hoosick Street, located adjacent to the south side of Alternate Route 7. A dividing aluminum guardrail system is installed at the eastern extremity of the referenced dividing concrete barrier.

Alternate Route 7 (Collar City Bridge) in the area of the concrete barrier impact by the 2000 Honda Civic operated by Edson Thevenin is comprised of a paved roadway consisting of two vehicular travel lanes for westbound traffic. A white fog line and aluminum guardrail system is installed on the northern highway periphery, while a yellow fog line and aforementioned aluminum guardrail/concrete barrier prevails on the southern highway periphery.

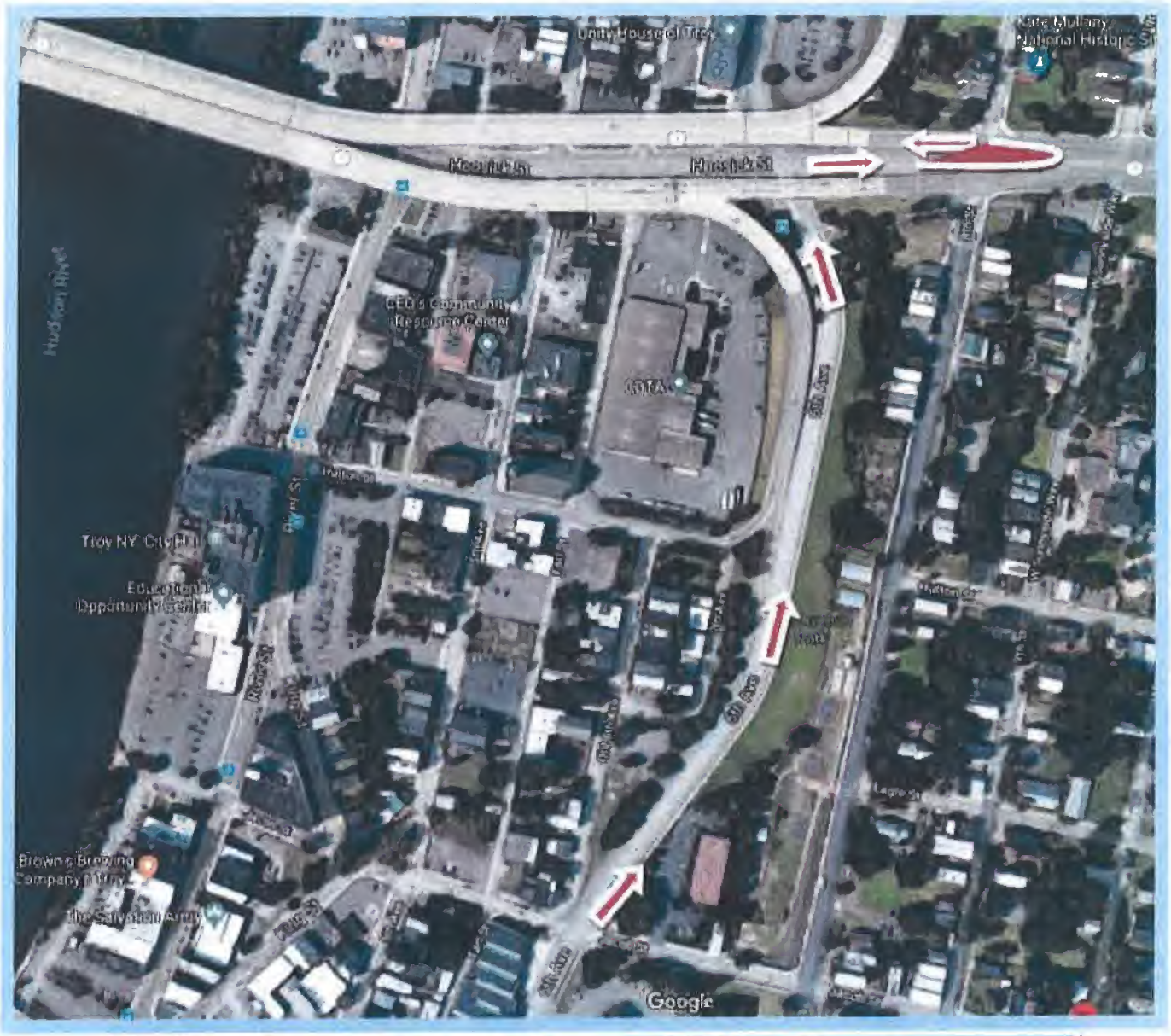


Image No. 2 This aerial photograph, courtesy of Google Maps, depicts the approximate trajectory of the 2000 Honda Civic operated by Edson Thevenin while fleeing a traffic stop near the intersection of 6th Avenue and Jacob Street. Being pursued by a marked Troy Police vehicle operated by Troy Police Sergeant Randall French, the 2000 Honda Civic operated by Edson Thevenin negotiated a sharp right turn onto Hoosick Street, and then a left u-turn onto Alternate Route 7 (Collar City Bridge) before impacting a concrete roadway barrier located on the southern side of Alternate Route 7 (NYS). Designated vehicle arrow locations and u-turn locations are for reference purposes only and are not to scale.)

VEHICLE IMPACT EVENTS -- ALTERNATE ROUTE 7 (COLLAR CITY BRIDGE)

Fleeing from the traffic stop initiated by Troy Police Sergeant Randall French on 6th Avenue north of Jacob Street[2], the 2000 Honda Civic operated by Edson Thevenin ultimately negotiated a sharp right turn onto Hoosick Street easterly. Shortly thereafter, the 2000 Honda Civic operated by Edson Thevenin negotiated a left u-turn from Hoosick Street onto Alternate Route 7 (Collar City Bridge).

Traveling in a westerly direction in the westbound lanes of Alternate Route 7, the 2000 Honda Civic operated by Edson Thevenin violently impacted the roadway median concrete barrier at a location approximately 35 feet west of the onset of the guardrail system located at the eastern end of the concrete center barrier.

Image No. 3 This aerial photograph, courtesy of Google Maps, depicts the approximate trajectory of the 2000 Honda Civic operated by Edson Thevenin while in an easterly direction on Hoosick Street (Red Arrows) after fleeing a traffic stop near the intersection of 6th Avenue and Jacob Street. Traveling beyond the concrete barrier and guardrail system at the eastern end of Alternate Route 7, the 2000 Honda Civic operated by Edson Thevenin negotiated a left u-turn and proceeded westerly onto Alternate Route 7 (Collar City Bridge) before impacting a concrete roadway barrier located on the southern side of Alternate Route 7.

2 *See* Narrative Statement of Sergeant Randall French, Troy (N.Y.) Police Department, 04/22/2016.

The impact of the westbound 2000 Honda Civic into the concrete median barrier system occurred at an approximate angle of 118 degrees, as determined by and through digital tram assessment of the sustained contact and structural damage at the left front section of the Honda Civic.[3]

Image No. 4. This 3D Forensic Animation Still Image depicts the approximate initial concrete barrier impact location of the 2000 Honda Civic operated by Edson Thevenin while in a westerly direction on Alternate Route 7 (Over City Bridge) after negotiating a u-turn from Hoosick Street. This Computer generated image was created by utilizing forensic scene mapping data, scene photographs, involved vehicle photographs, and forensic damage analyses of the involved 2000 Honda Civic.

This 3D Forensic Animation Still Image represents only that of the involved 2000 Honda Civic at initial concrete barrier impact. Troy Police Department vehicles are not depicted.

3 Comprehensive damage analyses will be discussed within a subsequent section of this report.

Due to the intensity of the impact of the 2000 Honda Civic operated by Edson Thevenin with the concrete barrier, as well as the approximate 118 degree angle of impact, the left frontal area of the vehicle was propelled into a forced westerly concrete barrier slide of approximately fifty-one (51) inches. This clockwise rotation of the 2000 Honda was substantiated by 1) concrete barrier evidence; 2) roadway right front Honda tire scuff mark; and 3) Honda physical crash evidence. (Also *see* Image No. 46, Page 61.)

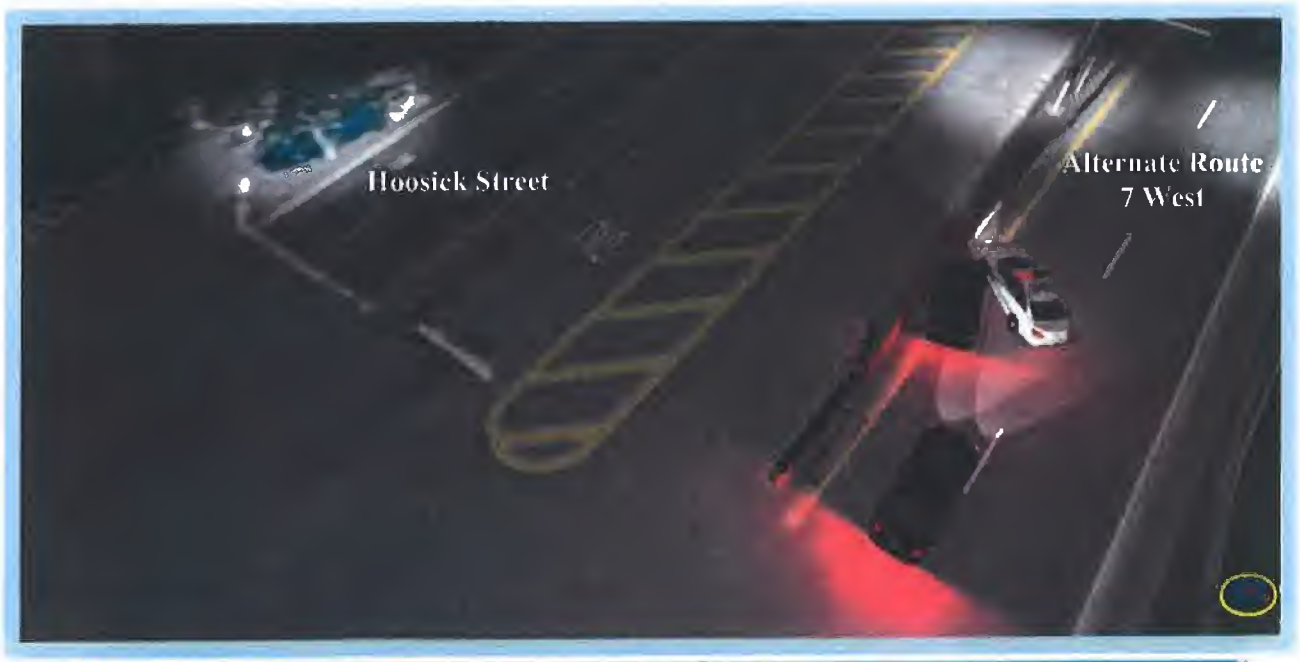


Image No. 5 This 3D Forensic Animation Still Image depicts the approximate final concrete barrier impact location of the 2000 Honda Civic operated by Edson Thevenin subsequent to clockwise rotation of the vehicle due to the severity of the impact and angle of approach while in a westerly direction on Alternate Route 7 (Collar City Bridge) after negotiating a u-turn from Hoosick Street. This computer generated image was created by utilizing forensic scene mapping data, scene photographs, involved vehicle photographs, and forensic damage analysis of the involved 2000 Honda Civic.

This 3D Forensic Animation Still Image also represents the location of the 2013 Ford Taurus marked Troy Police Department cruiser, based upon forensic scene mapping data. Additionally, the 3D Forensic Still Image represents the initial at-scene location of the 2012 Chevrolet Impala unmarked Troy Police Department vehicle, based upon forensic scene mapping and roadway physical evidence.

Subsequent to the severe concrete barrier impact and resulting clockwise rotation of the 2000 Honda Civic, and with the two Troy Police Department vehicles on scene as depicted by Image No. 5 (above), Honda operator Edson Thevenin purposefully placed the automatic transmission shifter of the vehicle in the REVERSE position and accelerated rearward, ultimately striking the Troy Police Department 2012 Chevrolet Impala operated by Troy Police Captain Matthew Montanino. Analysis of the physical damage of the two motor vehicles reveals that impact occurred between the right rear bumper cover of the 2000 Honda Civic and the left center bumper cover of the 2012 Chevrolet Impala.

Image No. 6: This 3D Forensic Animation Still Image depicts the approximate location of the 2000 Honda Civic operated by Edson Thevenin at impact with the Troy Police Department 2012 Chevrolet Impala after backing from concrete barrier final impact location on Alternate Route 7 (Collar City Bridge). This computer generated image was created by utilizing forensic scene mapping data, scene photographs, involved vehicle photographs, and forensic damage analyses of the involved 2000 Honda Civic and 2012 Chevrolet Impala.

Of note is the distance of approximately thirty-nine (39) inches between the right front bumper of the 2000 Honda Civic and the left rear wheel area of the marked Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French.

Image No. 66 This 3D Forensic Animation Still Image depicts the Heroux Street view of the approximate location of the 2000 Honda Civic operated by Edson Thevenin at impact with the Troy Police Department 2012 Chevrolet Impala after backing from concrete barrier final impact location on Alternate Route 7 (Collar City Bridge). This computer generated image was created by utilizing forensic scene mapping data, scene photographs, involved vehicle photographs, and forensic damage analyses of the involved 2000 Honda Civic and 2012 Chevrolet Impala.

Of note is the distance of approximately thirty-nine (39) inches between the right front bumper of the 2000 Honda Civic and the left rear wheel well of the marked Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randell Emch.

Following impact between the right rear bumper cover of the 2000 Honda Civic and the front bumper cover of the Troy Police Department 2012 Chevrolet Impala from the purposeful rearward trajectory of the Honda as the result of the operator/vehicle interface of Edson Thevenin, the shifter of the 2000 Honda Civic was then purposefully placed in the DRIVE position from the previous REVERSE position. The 2000 Honda Civic operated by Edson Thevenin was then accelerated in a forward trajectory the distance of

approximately thirty-nine (39) inches to impact with Troy Police Sergeant Randall French, who had exited the driver seat and was positioned in the proximity of the left rear quarter panel of the marked Troy Police Department 2013 Ford Taurus.

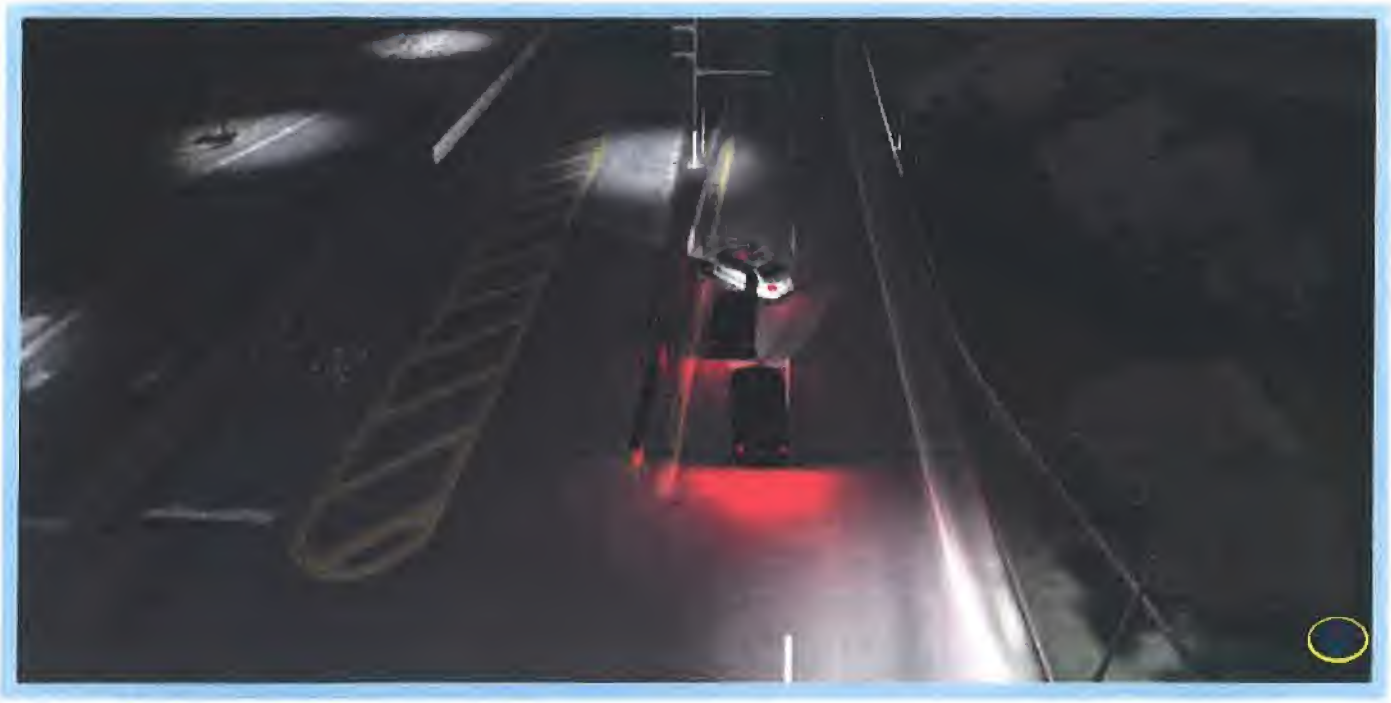


Image No. 7a This 3D Forensic Animation Still Image depicts the approximate location of the 2008 Honda Civic operated by Edson Thevenin at impact with Troy Police Sergeant Randall French at the left rear quarter panel area of the Troy Police Department 2013 Ford Taurus after having been accelerated a distance of approximately 39 inches in a forward trajectory from the area of previous impact with the Troy Police Department 2012 Chevrolet Impala. This image is that of facing westerly on Alternate Route 7 (Collar City Bridge). This computer generated image was created by utilizing forensic scene mapping data, scene photographs, involved vehicle photographs, and forensic damage analyses of the involved 2008 Honda Civic.

Image No. 78 This 3D Forensic Animation Still Image depicts the approximate location of the 2006 Honda Civic operated by Edson Thevenot at impact with Taos Police Sergeant Randall French in the left rear quarter panel area of the Taos Police Department 2013 Ford Taurus after having been accelerated a distance of approximately 39 inches in a forward trajectory from the area of previous impact with the Taos Police Department 2012 Chevrolet Impala. This image is that of viewing the scene in a southerly direction.

INVOLVED VEHICLE DATA AND ANALYSES -- VEHICLE NO. 1

A primary focus of the vehicle autopsy and related forensic analyses in this case was the involved 2000 Honda Civic operated by Edson Thevenin, which at the time of the described events was bearing New York registration FYZ9818. The vehicle is of the EX, two door coupe, front wheel drive, passenger vehicle[4] designation, and at the time of manufacturer was assigned a vehicle identification number of

1HGEJ8248YL105513

Image No. 8: This photograph depicts the FMVSS compliant Motor identification labels of the left door jamb of the 2000 Honda Civic operated by Edson Thevenin

The 2000 Honda Civic EX in this case was manufactured with the 1.6 Liter, 1595 cc, four cylinder, VTEC, MFI, naturally aspired gasoline engine developing 123-127 horsepower. Power from the engine is transmitted through a four speed automatic transmission/transaxle assembly to the drive components of the front wheel drive vehicle. Transmission gear selection is controlled and regulated by the manual input of the vehicle operator by and through the center console mounted shift lever.

According to manufacturer Honda Motor Company database records as well as National Highway Traffic Safety Administration records as the result of a national warranty database search most recently dated August 1, 2018, there are no open/outstanding Safety Recalls pertaining to the specific vehicle in this case.

4 *See* 49CFR571.3.

VEHICLE FORENSICS INVESTIGATIVE RESULTS

In addition to facts noted elsewhere within this investigative report, the vehicle autopsy and forensic analyses of the 2000 Honda Civic EX two door coupe on April 18 and April 19, 2018 at the Troy (New York) Police Department Garage facility in Troy, New York revealed conclusive evidence inclusive of the following:

- ***Tires and Wheels***

  The analysis of the tires of the involved 2000 Honda Civic EX revealed that all four tires and wheels were of the same manufacturer, design and size. Operational vehicle dynamics of the 2000 Honda Civic due to loss of tire air pressure, tread depth readings, Durometer readings, or abnormal wear patterns were a nonissue.

  The forensic analysis of the left front tire of the 2000 Honda Civic revealed impact characteristics relevant to the known impact of the vehicle with the concrete barrier of Alternate Route 7 (Collar City Bridge). This topic will be discussed in greater detail within the Damage Analysis section of this expert report.

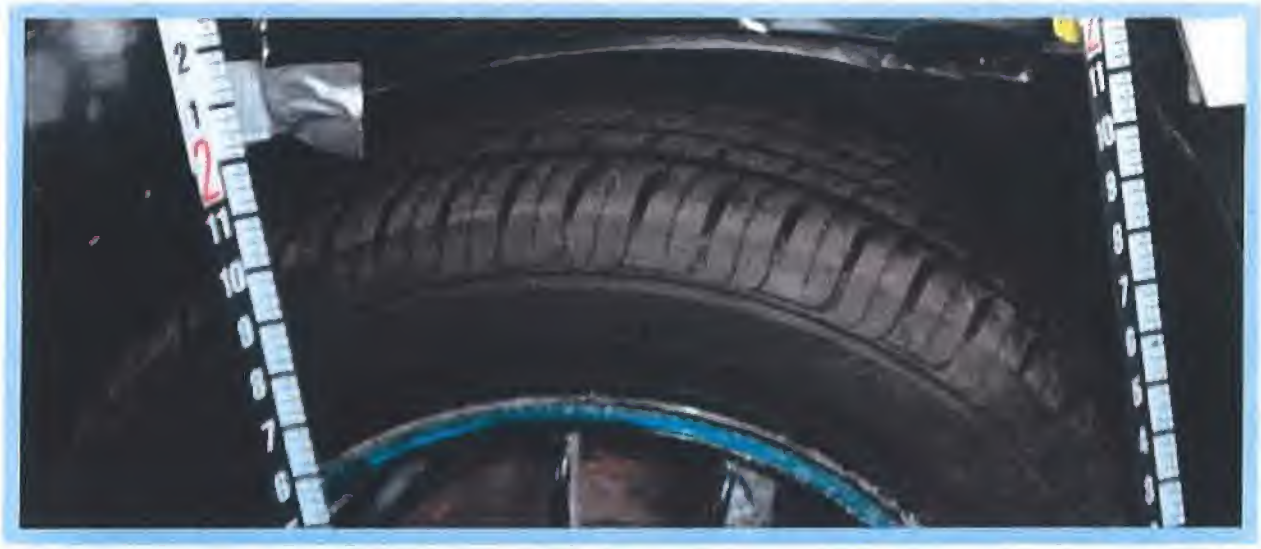


Image No. 8. This photograph of the right front tire of the 2000 Honda Civic operated by Eduard Djevenia depicts an example of the condition of the tires of the vehicle. The vehicle autopsy revealed no tire conditions which would have adversely affected the operational characteristics of the 2000 Honda Civic.

➢ *Braking System*

The 2000 Honda Civic in this case is equipped with a hydraulic brake system comprised of front disc brake components and rear drum brake components. The system is that of an antilock brake system (ABS), which is monitored and controlled by the Antilock Brake System Control Unit, monitoring tire slip rates reported by wheel speed sensors located at the four wheel locations while braking, and accordingly precisely controlling the slip rate of the wheels by and through brake fluid pressure modulation provided by the ABS Modulator. This response, in milliseconds, ensures maximum tire grip force on the roadway surface which assists in ensuring vehicle maneuverability and stability. As with all motor vehicle ABS systems, the system incorporates a failsafe design which reverts to normal (non-ABS) vehicle braking in the event of a malfunction.

The hydraulic braking system of the 2000 Honda Civic is specifically designed with front disc brake components inclusive of single floating, single piston disc brake calipers with inner and outer disc brake pads, while the rear braking system is designed with primary and secondary brake shoes, park brake hardware, self adjusting hardware, and brake drums. The braking system of the vehicle includes a vacuum booster for power assist braking.

The disassembly and analysis of the individual wheel location components revealed a fully adequate, hydraulic braking system in pre-crash operational condition, with all components intact and with no deficiencies.

Specific notations of the braking system components at the four wheel locations of the involved 2000 Honda Civic EX are as follows:

Front Disc Brake Pad Friction Material and Disc Brake Rotor Analysis

- **All components installed correctly and intact.**
- **Superficial oxidation present at rotor swept areas due to exposure to elements during vehicle impoundment.**
- **No brake fluid seepage evident at brake calipers.**
- **Brake caliper pistons compressed freely in bore without binding during testing; caliper slides exhibited free caliper body movement.**
- **Illuminated magnification of disc brake pad friction material revealed normal evidence of friction wear from rotor swept area interface.**
- **Friction material thickness adequate for proper brake application and coefficient of friction.**
- **Disc Brake Rotor thickness adequate.**
- **Brake dust accumulation minimal/undetectable, consistent with no high speed continuous brake application during pre-crash sequence vehicle operation.**

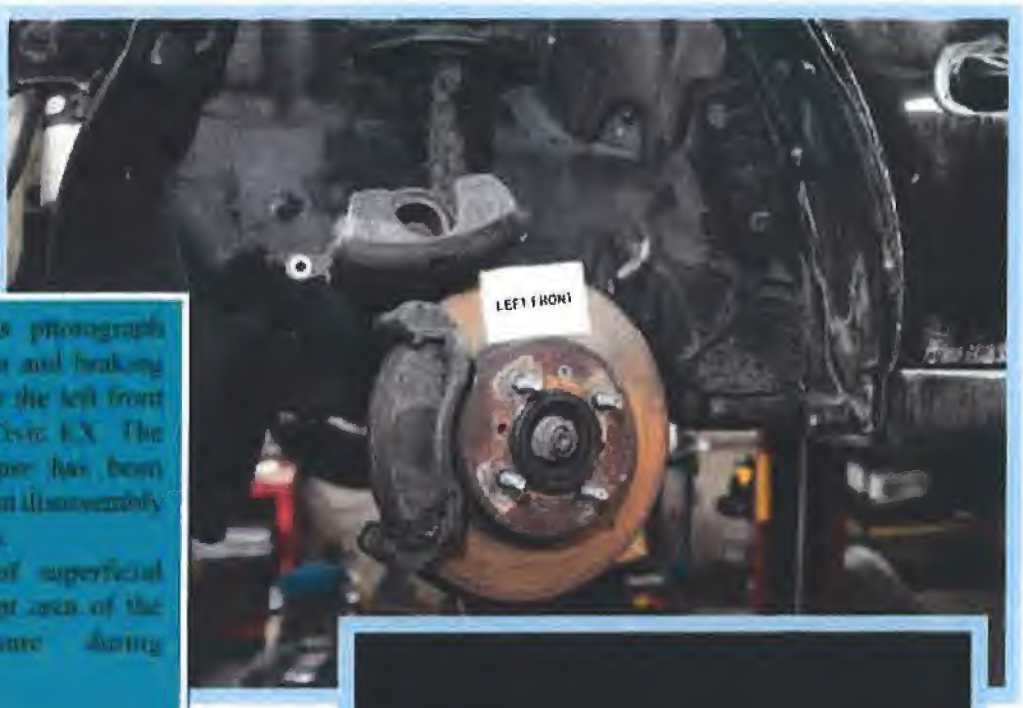


Image No. 10 This photograph depicts the suspension and braking components located at the left front of the 2000 Honda Civic EX. The left front brake caliper has been removed for component disassembly and testing procedures.
Note the presence of superficial oxidation on the swept area of the rotor from exposure during impoundment.

Image No. 11 This photograph depicts the suspension and braking components located at the right front of the 2000 Honda Civic. Note the minimal brake dust accumulation consistent with no high speed evasive braking during vehicle crash sequence operation.

Image No. 12: This photograph depicts the suspension and braking components located at the right rear of the 2000 Honda Civic. Note the intact components, with no wheel cylinder brake fluid seepage.

Image No. 13: This photograph depicts the brake drum located at the right rear of the 2000 Honda Civic. Wear measurement readings of the brake shoe contact areas of the brake drum exceeded minimum specifications.

Brake Fluid Testing and Analysis

- **Dual circuit brake master cylinder design, with adequate brake fluid level.**
- **Primary brake fluid hydraulic system and secondary brake fluid hydraulic system intact and not compromised.**
- **Brake fluid analyzed for hygroscopic properties to 600 degrees Fahrenheit; met/exceeded operational safety requirements.**

Images No. 14a & 14b: These photographs depict the testing analysis of the brake fluid of the involved 2000 Honda Civic LX to 600 degrees Fahrenheit. The results were that the hygroscopic properties of the brake fluid met/exceeded standards.

Brake Fluid System Pressure Testing and Analysis

- **Analysis of brake system components revealed that of a fully operational hydraulic brake system at all front wheel locations.**

- **No brake fluid seepage evident; flexible brake hoses exhibited no swelling or restriction; steel brake lines exhibited no kinking.**

- **Brake pedal activation revealed that of a hard, firm pedal with no fading -- primary braking system.**

- **Brake pedal reserve at 100 lbs. brake pedal pressure exceeded minimum specifications.**

Image No. 15 This photograph depicts the testing analysis of the brake pedal reserve upon application of 100 lbs force. The results exceeded minimum specifications.

The testing analysis revealed proper brake fluid hydraulic properties, sufficient to provide proper braking deceleration of the vehicle.

➢ *Steering and Suspension Components*

The 2000 Honda Civic EX in this case was manufactured with a variable assist power steering system incorporating a rack and pinion design gearbox. Due to variable pressure control, the power steering assist is reduced when steering resistance is low, such as during high speed operation of the vehicle.

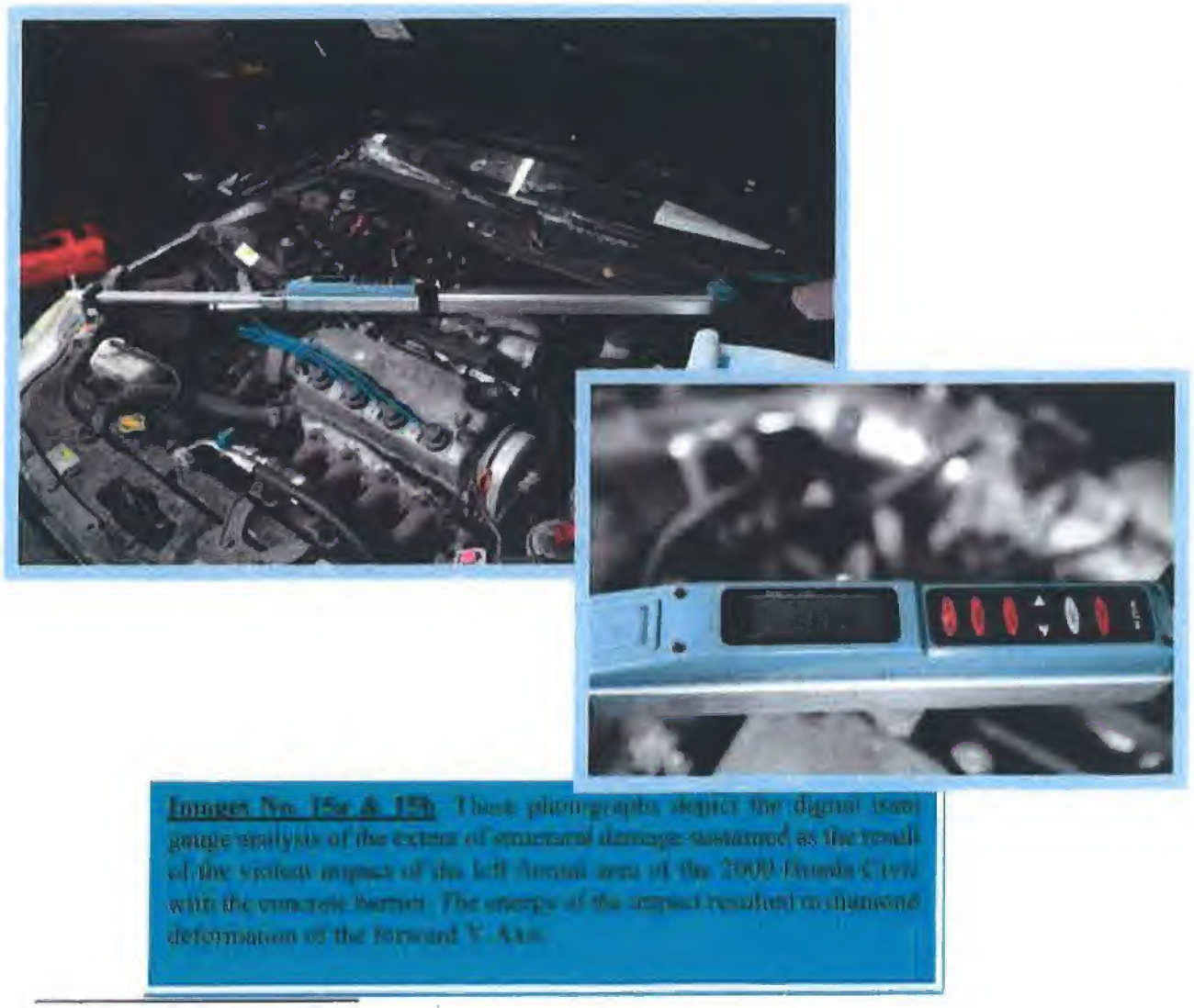
The inspection of the steering and suspension systems of the involved 2000 Honda Civic EX revealed the following:

- **Power rack and pinion steering components intact and functional.**
- **Steering wheel rotation resulted in positive front wheel/tire steering action; however, normal lock-to-lock transition was limited due to extreme front wheel toe out condition from severity of frontal impact with concrete barrier.**
- **No measureable free play -- steering wheel rotation/front tire/wheel steering action.**
- **Steering wheel exhibited significant deformation due to unrestrained driver impact forces.**
- **No measurable play at tie rod ends.**
- **No measurable play at lower front/rear bushings/ball joints, strut joints, or wheel bearings.**
- **Front subframe displaced rearward from left front vehicle violent impact with concrete barrier, resulting in diamond dimension deformation of approximately 1.22 inches.**

- **Power steering pump pulley immobile due to impact damage resulting in absence of power steering assist[5].**

- **Left front tie rod assembly steering components exhibited extreme deformation from vehicle violent impact with concrete barrier, contributing to front wheel toe out condition of approximately 17.4 degrees[6].**

- **No evidence whatsoever of pre-crash component failure.**



Images No. 15a & 15b. These photographs depict the digital tool gauge analysis of the extent of structural damage sustained as the result of the violent impact of the left forward area of the 2000 Honda Civic with the concrete barrier. The energy of the impact resulted in diamond deformation of the forward V-Axis.

5 Steering was operational; however, low speed operation required increased operator input.
6 Honda specification for front wheel toe condition is .07 inches toe in.

Image No. 16. This photograph depicts the deformation of the left front tie rod assembly due to the severity of Honda Civic ten frontal impact with the concrete barrier. The tie rod is normally in a straight configuration.

The deformation as well as subframe deformation resulted in a front wheel toe out condition of approximately 17.4 degrees.

Image No. 17. This paragraph depicts the obvious deformation of the steering wheel of the 2006 Honda Civic consistent with the impact energy of unrestrained occupant Edwin Hernandez in impact with the concrete barrier.

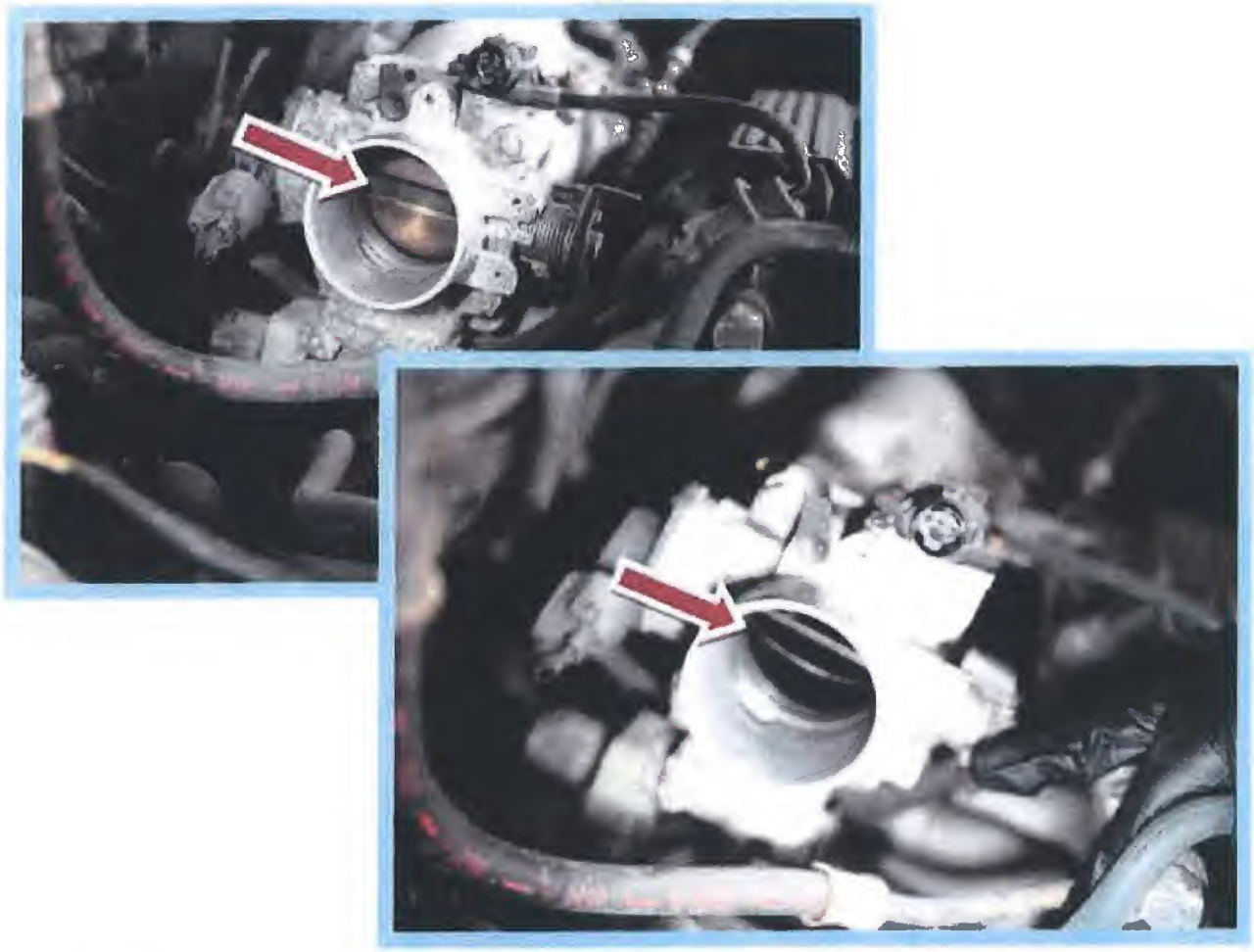
➢ *Accelerator System*

The 2000 Honda Civic in this case was manufactured with a non-electronic/non-computer controlled accelerator system, of which the primary components are 1) Accelerator Pedal; 2) Accelerator Cable; and 3) Throttle Link located at the Throttle Body of the engine.

Accelerator System Testing and Analysis

As a procedure of the forensic vehicle analyses in this case, the Accelerator System of the involved 2000 Honda Civic was examined and analyzed to determine proper functionality. The results of the testing and analysis are as follows:

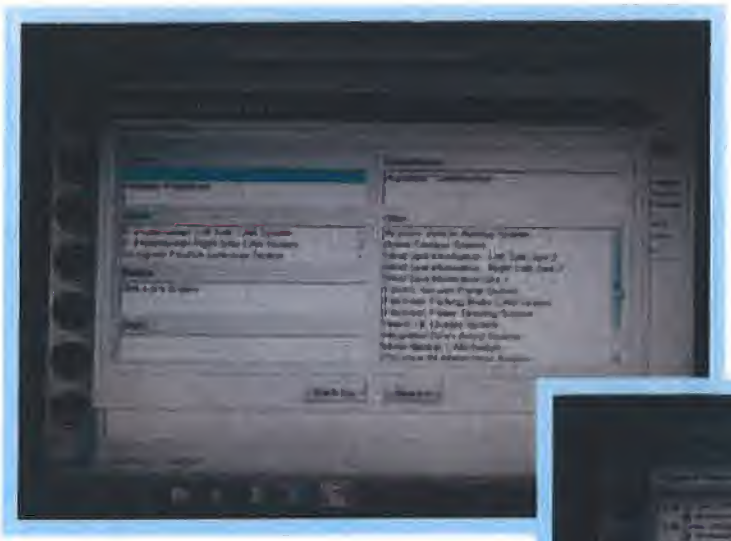
- ✓ **The Accelerator Cable operated smoothly with no binding or sticking.**
- ✓ **The throttle valve shaft of the Throttle Body exhibited no excessive wear of play.**
- ✓ **Clearance between the throttle stop screw and throttle lever of the Throttle Body was nonexistent at idle position.**
- ✓ **In compliance with applicable Federal Motor Vehicle Safety Standards, The Accelerator Pedal Assembly provided a positive dual spring return to idle position upon release of the accelerator pedal, with measured resistance of approximately 7.125 lbs. throughout the transition range.**
- ✓ **The Throttle Body Throttle Plate, equipped with the previously mentioned mandated two mechanical energy source means of closed positioning, provided a positive spring return to idle position with no binding. Measured resistance was approximately 2.250 lbs. at the Throttle Plate, and approximately 4.250 lbs. at the external Throttle Plate linkage.**



Images No. 18a & 18b. These photographs depict the Throttle Body of the involved 2000 Honda Civic operated by Edem Thevenin. The Red Arrow denotes the Throttle Plate, which is mechanically sensitized to the closed (engine idle) position.

➢ *Computer Control Systems*

The 2000 Honda Civic EX which is the subject of these forensic analyses was manufactured with numerous computer control systems. As a procedure of the forensic vehicle analyses in this matter, computer serial data communications were initiated to provide both real time and history overview data of the computer control systems. This analysis revealed no faults within any of the computer controlled systems of the vehicle. Mode 02 Data was not recorded at impact.



Images No. 19a & 19b. These photographs depict screenshot images of computer serial data communications with the computer control modules of the 2000 Honda Civic. There were no system faults.

➢ ***Forensic Bulb Analysis, Rear Lamps***

As a segment of the vehicle autopsy of the 2000 Honda Civic EX in this case, the forensic analysis of certain light bulbs of the rear lamp assemblies of the vehicle was performed. This analysis, combined with the previously described analysis of brake system evidence, revealed evidence consistent with no brake application by 2000 Honda Civic operator Edson Thevenin at the time of the violent impact with the concrete barrier of Alternate Route 7 (Collar City Bridge).

Images Nos. 20g & 20h. These photographs depict the left rear Stop/Tail Lamp Bulb of the involved 2000 Honda Civic in this case. The Blue Arrow denotes the lamp bulb upon being exposed from the tail lamp assembly. The Green Arrow denotes the tungsten stop/directional lamp filament of the bulb, with evidence of hot shock distortion, but with evidence of hot shock distortion at the tail lamp tungsten filament. This forensic evidence is consistent with the brake lamps in a non-luminous state at impact, and the tail lamps in a luminous state.

➢ *Operational Analysis -- 2000 Honda Civic EX*

Due to the extent of the left frontal crash damage sustained by the 2000 Honda Civic EX as the direct result of the violent impact with the concrete barrier of Alternate Route 7 (Collar City Bridge), a logical inquiry is that of the capability of operation of the vehicle given the degree of destruction of the 2000 Honda Civic. To adequately address the concern, this forensic vehicle investigation was inclusive of providing a vehicle operational analysis, with acceleration data, with specific respect to the approximate thirty-nine (39) inch distance of alleged forward trajectory of the 2000 Honda Civic following concrete barrier impact and as the result of purposeful interface of operator Edson Thevenin.

Procedure/Methodology

On April 19, 2018, procedures were implemented to start the engine of the 2000 Honda Civic EX following the lengthy period of impoundment and nonuse. Once the engine was in an operational state, the 2000 Honda Civic was driven from its inspection location of the far service bay at the Troy Police Department Vehicle Maintenance Garage in a forward trajectory, out of the building, to a location within the front parking lot of the facility by placing the transmission gear selector in DRIVE and providing acceleration. The transmission gear selector of the vehicle was then moved to the REVERSE position, providing operation of the vehicle in a rearward direction upon acceleration within the confines of the parking lot. Next, the transmission gear selector was again placed in the DRIVE position, and the 2000 Honda Civic was accelerated in a forward trajectory within the confines of the garage facility parking lot. The transmission gear selector of the 2000 Honda Civic EX was then placed again in the REVERSE position, and the vehicle was again accelerated in a rearward direction nearly the entire length of the parking lot located at the front of the repair facility building.

Now at a location within the confines of the parking lot near the westerly end of the facility location at 1652 5th Avenue, acceleration procedures and analysis of the 2000 Honda Civic EX were performed by implementing the use of a Vericom VC4000DAQ computer attached to the vehicle. The computer acceleration distance for the forward acceleration analysis was

entered as six (6.0) feet to allow for data well beyond that of the specified thirty-nine (39) inches of forward trajectory of the Honda Civic from the rearward impact location of the Honda Civic with the frontal area of the Troy Police Department 2012 Chevrolet Impala to impact with Troy Police Sergeant Randall French, who was positioned near the left rear quarter panel of the marked 2013 Ford Taurus police cruiser.[7]

2000 Honda Civic Acceleration Computer Analysis Results

The computer analysis of forward acceleration of the 2000 Honda Civic EX, performed on April 19, 2018 at the Troy Police Department Vehicle Maintenance garage parking lot, revealed that the vehicle accelerated a distance of six (6.0) feet from a stopped position in 2.23 seconds, attaining a speed of 4.8 miles per hour.

Image No. 21 This photograph depicts the Vericom VC4000DAQ computer analyses results of the forward acceleration of the 2000 Honda Civic over a distance of six (6.0) feet from a stopped position

7 The approximate 39 inches of forward trajectory distance was established by Craig Fries during a prior investigation; however, Mr. Fries also concluded that the distance of the vehicle backing was 39 inches, which is blatantly incorrect.

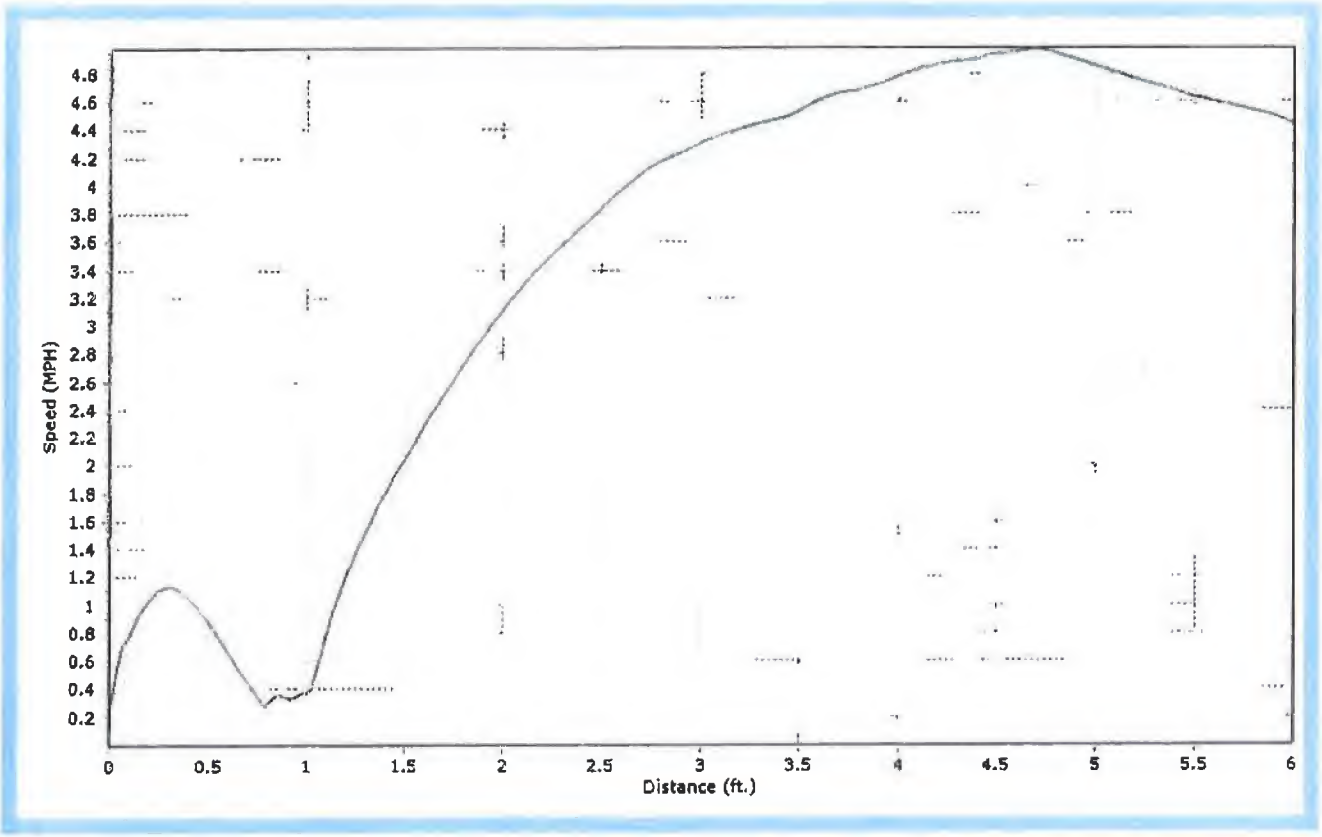


Image No. 22 This graph depicts the Speed of the acceleration of the 2010 Honda Civic in comparison to the Distance of the acceleration of the vehicle. This data and graph were the result of Vericom VC4000 DAQ Computer acceleration analysis.

2000 Honda Civic EX Computer Acceleration Test Results

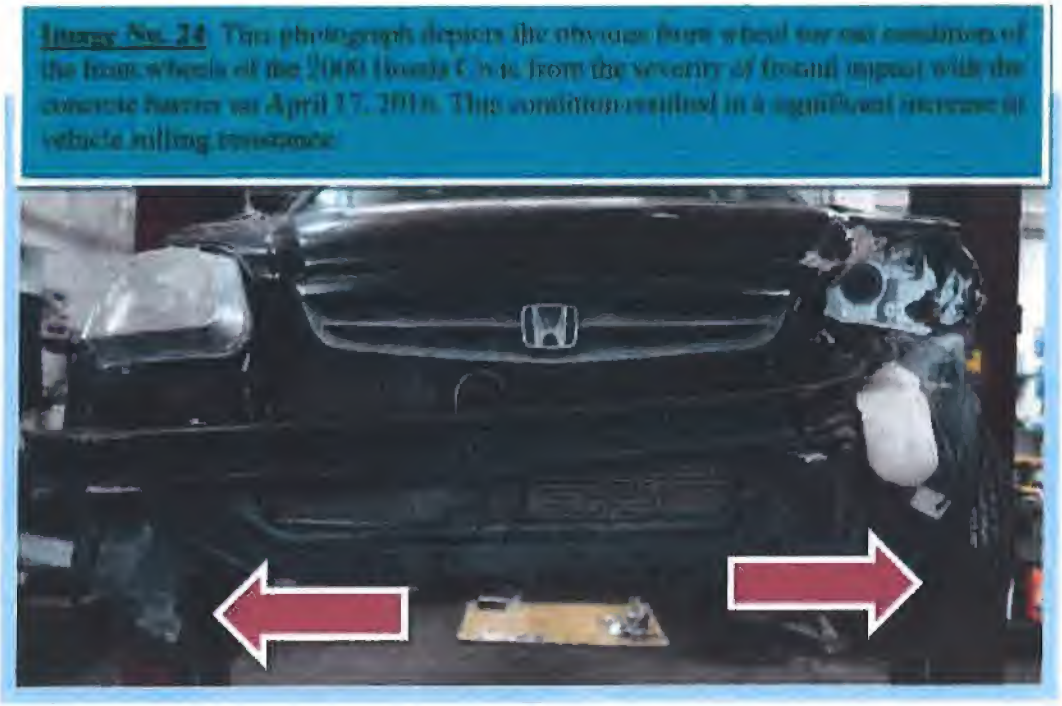
TIME (secs)	ACCEL (g)	SPEED (mph)	DIST (ft)
1.690	0.382	3.18	2.03
1.700	0.370	3.26	2.08
1.710	0.360	3.34	2.13
1.720	0.349	3.41	2.18
1.730	0.334	3.49	2.23
1.740	0.320	3.56	2.28
1.750	0.322	3.63	2.33
1.760	0.324	3.70	2.39
1.770	0.328	3.77	2.44
1.780	0.338	3.84	2.50
1.790	0.348	3.92	2.55
1.800	0.361	4.00	2.61
1.810	0.311	4.07	2.67
1.820	0.270	4.13	2.73
1.830	0.218	4.18	2.79
1.840	0.186	4.22	2.85
1.850	0.185	4.26	2.92
1.860	0.191	4.30	2.98
1.870	0.197	4.34	3.04
1.880	0.148	4.37	3.11
1.890	0.106	4.40	3.17
1.900	0.127	4.43	3.23(38.76 in)
1.910	0.098	4.45	3.30(39.60 in)
1.920	0.096	4.47	3.36(40.32 in)

Image No. 23 This graph depicts a segment of the computer acceleration data of the 2000 Honda Civic. The reported distance was that of the reported 39 inches of lock and vehicle movement of the incident of April 17, 2018. The bold data in RED provides breakdown of that distance.

2000 Honda Civic Acceleration Analysis Summary

The operation and computer acceleration analysis of the involved 2000 Honda, conducted on April 19, 2018, revealed that the vehicle was capable of forward motion and rearward motion upon operator/accelerator interface with the transmission gear selector placed in REVERSE and DRIVE positions. Due to the severity of the frontal structural damage of the vehicle, which resulted in the previously described approximate 17.4 degree front wheel toe out condition, movement of the vehicle under power required significant accelerator input resulting in noticeably increased engine RPM. As a companion effect of the substantial front wheel toe out condition due to violent impact structural damage, deceleration of the vehicle was immediately realized due to the significant increase in rolling resistance of the vehicle. Furthermore, the turning radius of the 2000 Honda Civic was significantly reduced due to the toe out condition of the front wheels.

In addition to the readily apparent increased engine RPM required to accelerate the 2000 Honda Civic from a stopped position, perceptible metallic clanging noises emanated from the left front drive axle CV Joints of the vehicle -- also the result of damage due to the severity of vehicular impact with the concrete barrier on April 17, 2016.



The computer acceleration analysis of the 2000 Honda Civic revealed that the maximum acceleration speed for the distance of 39.60 inches was 4.43 miles per hour, and that the minimum time to traverse the distance of 39.60 inches was 1.910 seconds under full acceleration input. Accordingly, the maximum level of Kinetic Energy of the 2000 Honda Civic would have been 1755.7743 ft-lbs[8].

➢ *Vehicle Damage Analysis*

The vehicle forensic and crash reconstruction procedures of April 18th and 19th of 2018 were inclusive of the forensic analysis of vehicle damage sustained by the 2000 Honda Civic operated by Edson Thevenin. In addition, continued forensic damage analyses of the involved Honda Civic as well as that of the involved Troy Police Department 2013 Ford Taurus police cruiser were performed on June 6, 2018. Based upon the forensic damage analysis of the two vehicles, impact damage physical evidence forensic matchup of the two involved vehicles was conducted on June 6, 2018.

2000 Honda Accord Operated by Edson Thevenin Damage Analysis

Forensic crash damage analysis of the 2000 Honda Civic EX operated by Edson Thevenin, performed with angled remote flash, digital microscopic examination, and digital measuring devices, revealed the following:

1) *Location of Damage*: Right Rear Bumper Cover.

***Description of Damage*: Paint scuffing/scratching; paint delamination; fracturing of plastic rear bumper cover material.**

***Analysis of Damage*: Consistent with impact with frontal front bumper cover area of Troy Police Department 2012 Chevrolet Impala as the result of rearward backing trajectory of 2000 Honda Civic.**

8 Kinetic Energy formula input data of the maximum vehicle speed of 4.43 miles per hour, with vehicle weight of 2684 lbs.

Images No. 25a & 25b. These photographs depict the impact damage of the right rear bumper cover of the 2000 Honda Civic (top photo), consistent with rear-end (backing) impact with the front bumper screw of the Town Police Department 2012 Chevrolet Impala (bottom photo).

2) ***Location of Damage***: **Left Frontal Area.**

Description of Damage: **Front bumper cover paint scuffing/scratching, front bumper cover detachment; structural damage inclusive of rearward deformation of front subframe assembly; obvious toe out condition of front wheels; left wheelbase reduced approximately 2.09 inches.**

Analysis of Damage: **Consistent with severity of frontal vehicle impact with concrete barrier of Alternate Route 7 (Collar City Bridge).**

Images No. 26a, 26b, & 26c These photographs depict the impact damage of the left front of the 2001 Honda Civic consistent with the violent concrete barrier impact of April 17, 2016. Utilizing digital measuring equipment, the impact angle was determined to be approximately 118 degrees (side) 78 degrees (front).

3) ***Location of Damage*: Right Front Fender.**

***Description of Damage*: Paint delamination/striations; paint transfer; inward deformation/stretching of sheet metal.**

***Analysis of Damage*: See Vehicle Damage Matchup Section.**

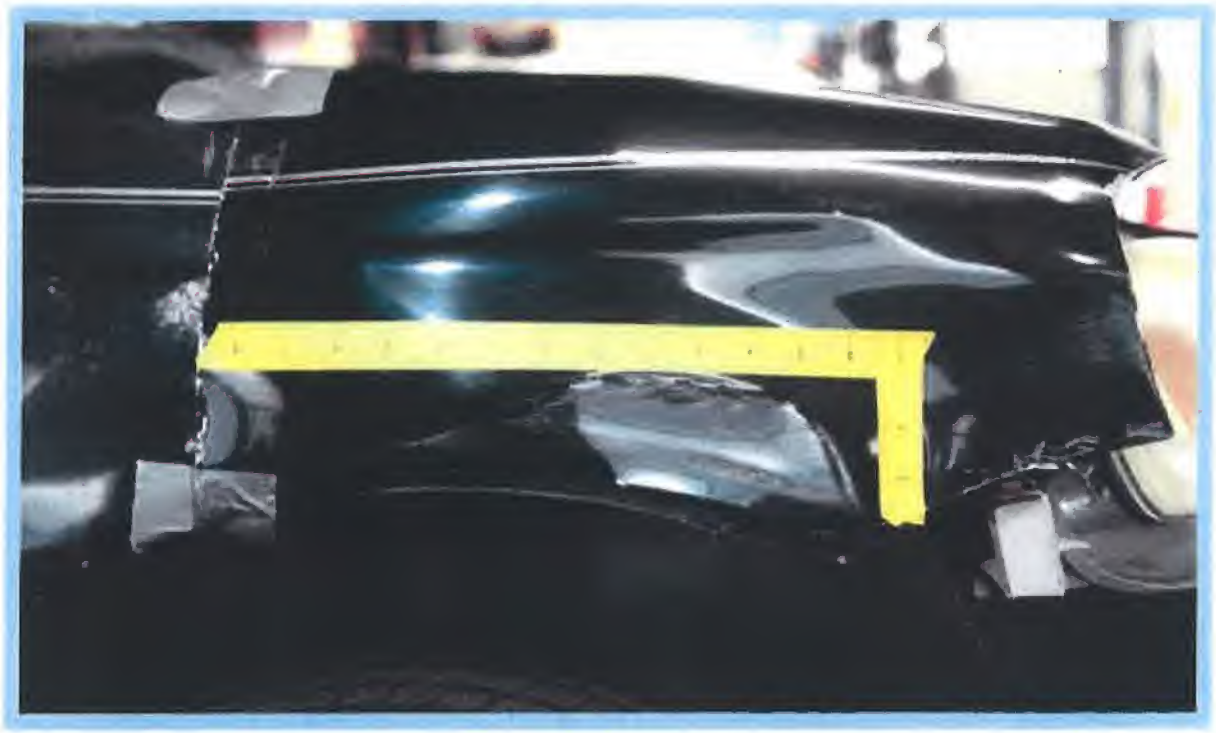


Image No. 17: This photograph depicts the impact damage sustained by the right front fender of the 2000 Honda Civic, consisting of paint delamination, paint transfer, paint striations, and significant metal deformation/stretching. Digital microscopic analysis revealed that the paint striations were due to left to right to the photograph (rear to front on the vehicle).

4) *Location of Damage*: **Right Outside Rearview Mirror.**

Description of Damage: **Forcefully detached in forward trajectory. Paint chipping/striations/scuffing.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

Imagery No. 28a, 28b, & 28c. These photographs depict the right outside rearview mirror location and mirror of the 2000 Honda Civic. The present page photo-documents the location of the mirror on the vehicle prior to detachment, while the two photos above showing the trajectory final rest location of the mirror in the area of the front of the left rear tire of the 2013 Ford Taurus police cruiser operated by Tiny Police Sergeant Randall French at the scene of the April 17, 2016 incident. The mirror exhibited paint striations chipping, with no evidence whatsoever of having been run over by a vehicle tire.

5) *Location of Damage*: **Front Bumper Cover, Right Side (forward of right front tire).**

Description of Damage: **Paint transfer, striations, scuffing.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

Images No. 29 This photograph depicts the right front bumper cover of the 2000 Honda Civic, directly ahead of the right front tire. The Green Arrow denotes paint transfer and scuffing, with striations also present.

6) *Location of Damage*: **Right Outside Door Handle.**

Description of Damage: **Paint striations, scuffing.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

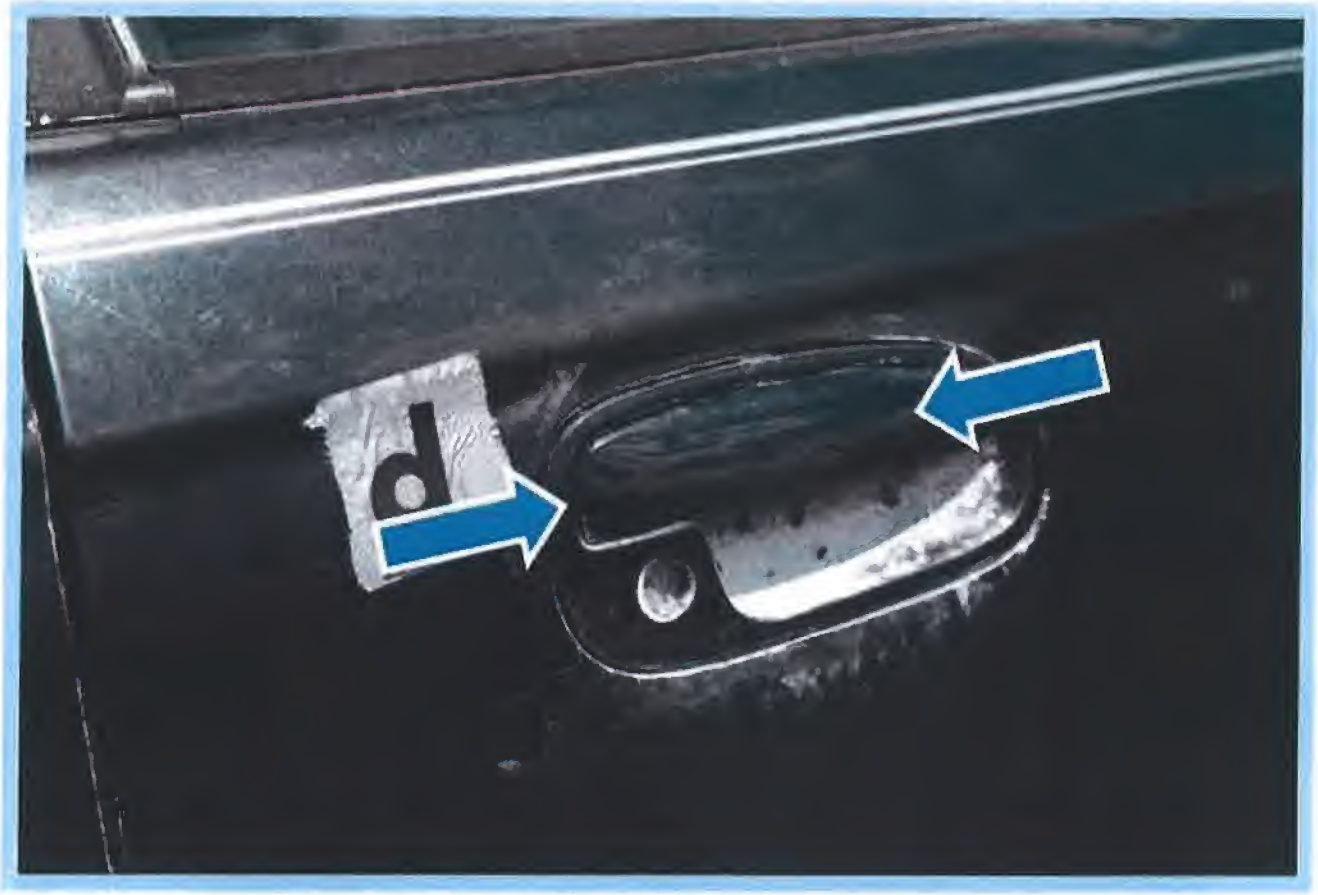


Image No. 20 This photograph depicts the right outside door handle of the 2000 Honda Civic directly ahead of the right front tire. Distinctive scuffing was apparent on the paint surface of the door handle forward of the left Blue Arrow, with striations present in the approximate area between the two Blue Arrows. The direction of the damage was left-to-right in the photograph (rear-to-front on the vehicle).

7) *Location of Damage*: **Right Rear Quarter Panel Side Guard Molding.**

Description of Damage: **Material striations/scuffing; material friction wear.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

Images No. 31a & 31b These photographs depict the described damage present at the right side quarter panel side guard molding of the 2000 Honda Civic. Note the abrasion friction wear (Red Arrows). The direction of the damage was left-to-right in the photograph (rear-to-front on the vehicle).

2013 Ford Taurus Police Cruiser Operated by Sergeant Randall French Damage Analysis

Forensic crash damage analysis of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French, performed with angled remote flash, digital microscopic examination, and digital measuring devices, revealed the following:

1) *Location of Damage*: **Left Front Door, Outer Panel.**

Description of Damage: **Paint transfer; striations/scuffing; significant outer steel door panel deformation inclusive of creasing, indentation, and buckling; scuffing at outside door handle location.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

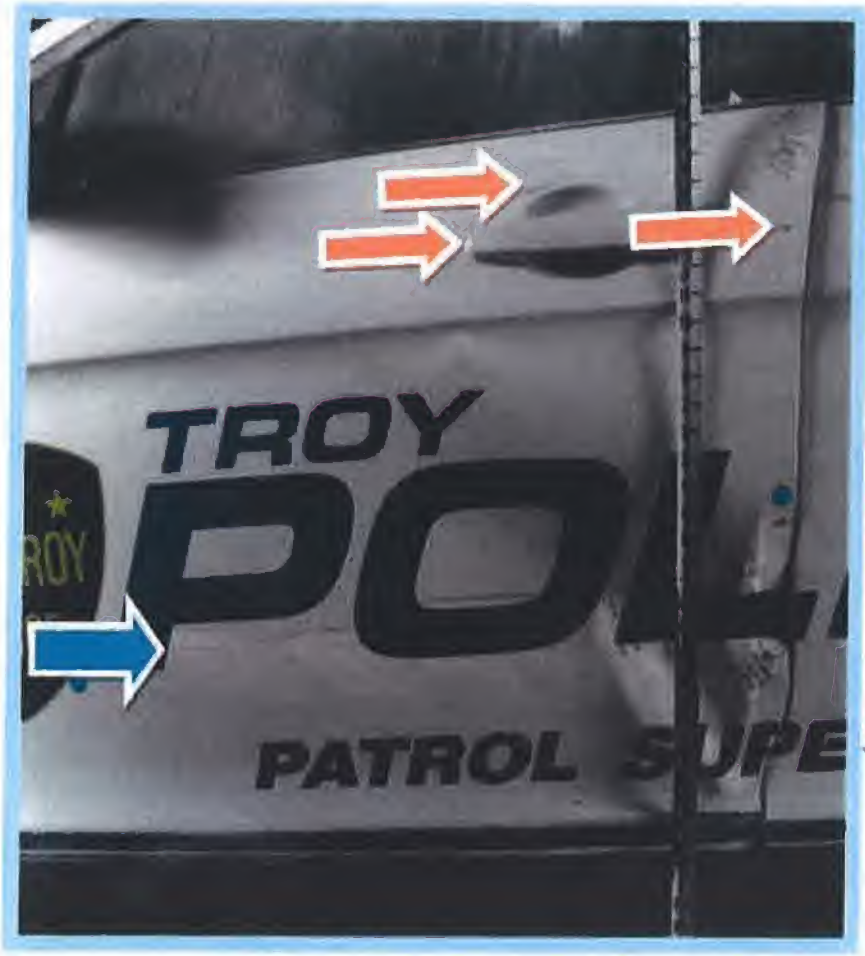


Image No. 32a. This photograph depicts the described sinusoidal contact damage present at the left outer steel door panel of the 2013 Ford Taurus. Note the obvious panel deformation in the area of the vertical tape measure. The Orange Arrows denote scuffing transfer at the leading edge, exterior surface above, and rearward of the outside door handle. The orientation and direction of the damage was that of the Blue Arrow, left-to-right in the photograph (front-to-rear on the vehicle).

Image No. 32b This photograph depicts the described substantial contact damage present at the left outer steel door panel of the 2013 Ford Fiesta. Note the significant intrusion and panel buckling due to impact. Also note the scuffing present on, and to the rear of the exterior door handle (Orange Arrows). The referenced exterior door handle was displaced slightly rearward from front to rear forces.

2) *Location of Damage*: **Left Rear Door, Upper Forward Outer Panel.**

Description of Damage: **Striations/scuffing/transfer -- continuous rearward from left front outer door handle damage.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

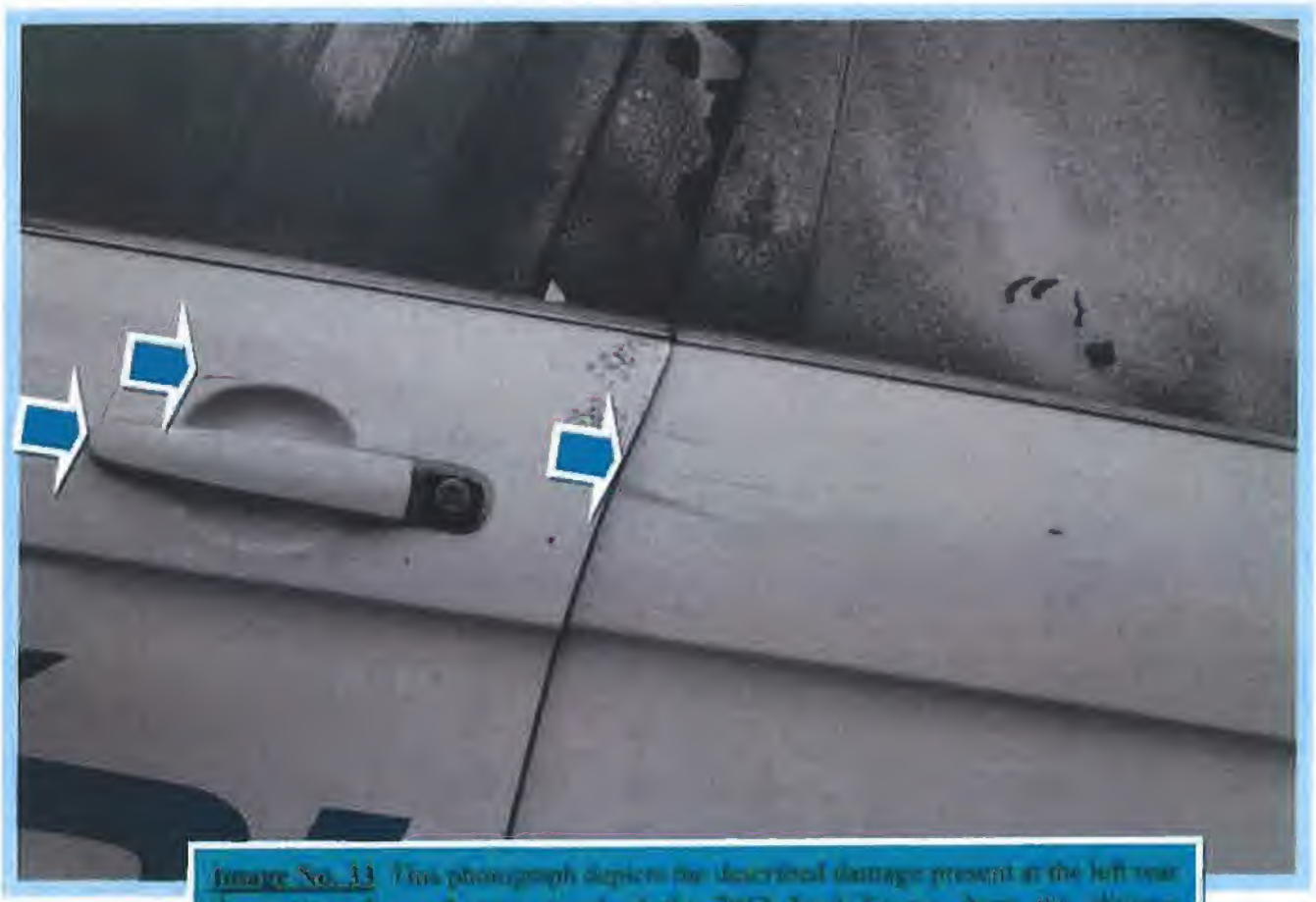


Image No. 33 This photograph depicts the described damage present at the left rear door, upper forward outer panel of the 2017 Ford Taurus. Note the obvious scuffing transfer (Blue Arrows). The direction of the damage was left to right in the photograph (front-to-rear on the vehicle).

3) *Location of Damage*: **Left Front Fender, Lower Rear Section.**

Description of Damage: **Striations/scuffing/transfer.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

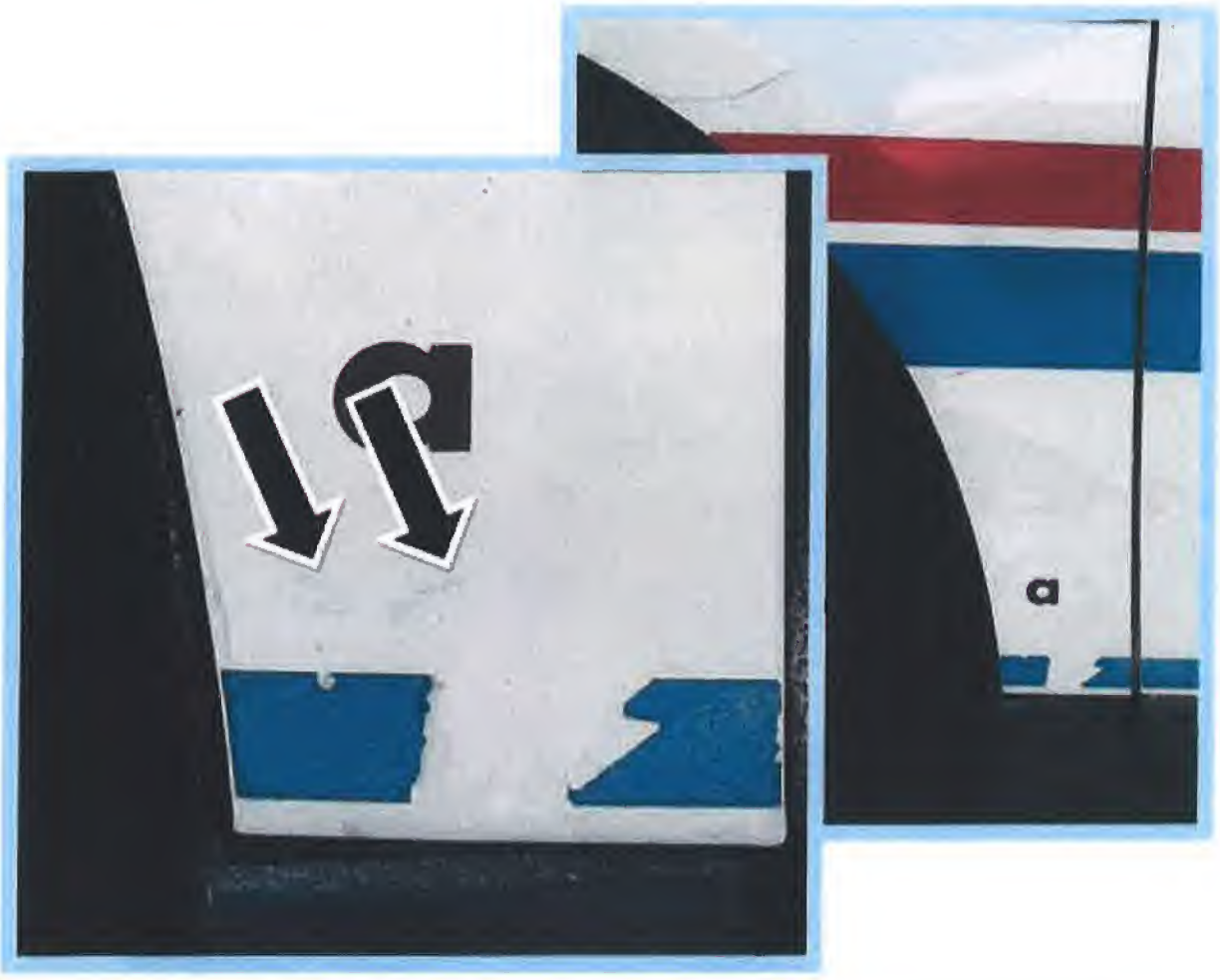


Image No. 34 This photograph depicts the described damage present at the left rear lower front fender panel of the 2015 Ford Taurus. Note the obvious scuffing/transfer (Black Arrows).

4) ***Location of Damage*****: Left Rear Quarter Panel, Forward Upper Wheel Well Area.**

Description of Damage**: Striations/scuffing/transfer.**

Analysis of Damage**: See Vehicle Damage Matchup Section.**

Image No. 35 This photograph depicts the described damage present at the left rear quarter panel upper drip log area of the 2013 Ford Taurus. Note the obvious scuffing/transfer. (Real Arson.)

5) *Location of Damage*: **Left Rear Door Panel, Lower Rear into Dog Leg.**

Description of Damage: **Striations/scuffing/transfer.**

Analysis of Damage: **See Vehicle Damage Matchup Section.**

Image No. 36. This photograph depicts the described damage present at the left rear quarter panel of the 2013 Ford Taurus. Note the obvious scuffing/transfer (Blue Arrow).

➢ *Vehicle Damage Matchup Analysis*

The vehicle forensic and crash reconstruction procedures of June 6, 2018 were focused on the forensic matchup analysis of vehicle damage sustained by the 2000 Honda Civic operated by Edson Thevenin, as well as the vehicle damage sustained by the involved Troy Police Department 2013 Ford Taurus police cruiser operated by Troy Police Sergeant Randall French. The following information and photographs provide the procedures of the forensic vehicle damage matchup and results thereof.

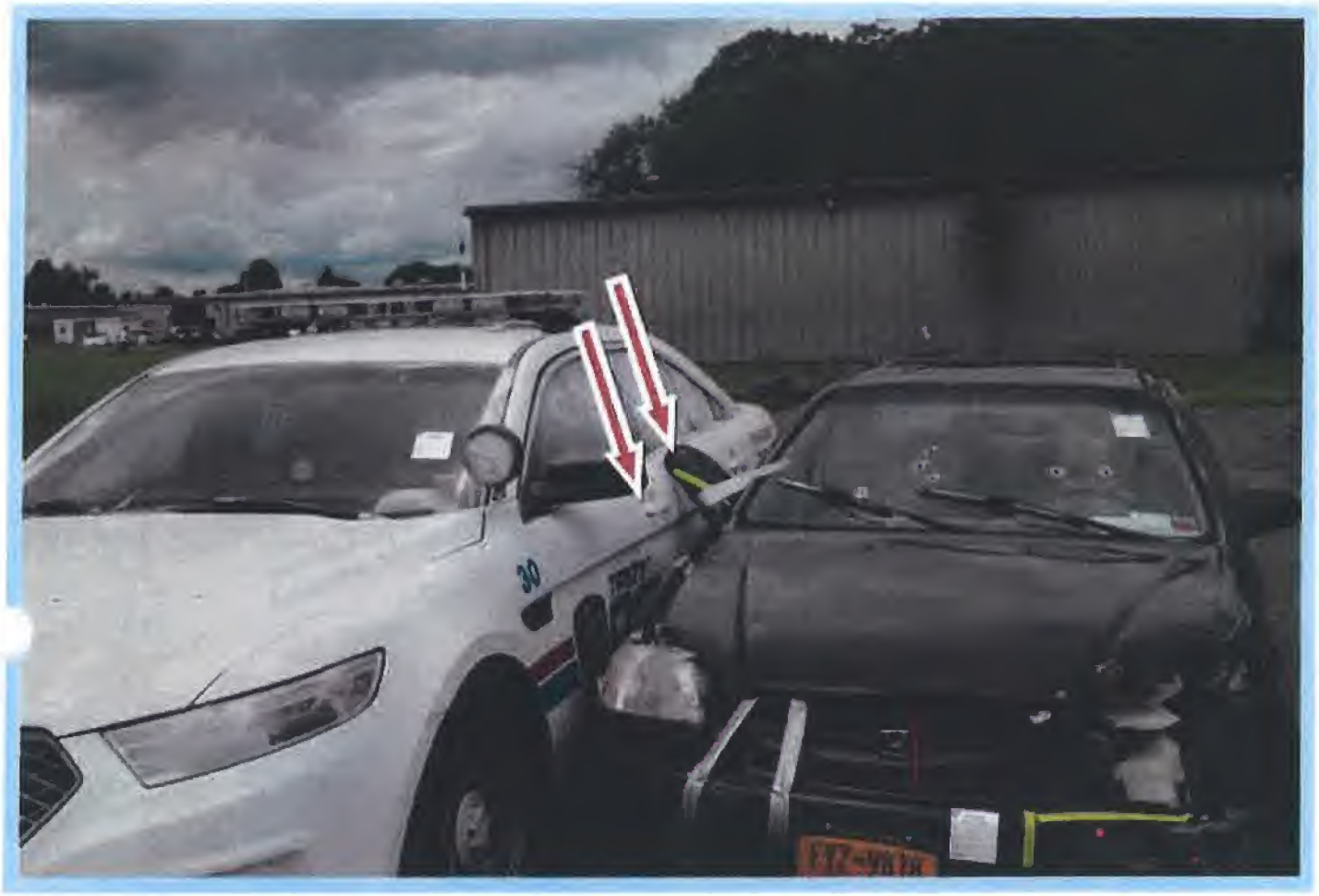
A) ***Vehicle:*** **2000 Honda Civic EX Operated by Edson Thevenin**

Damage Location/Description: **Right Outside Rearview Mirror Detachment** (*See* Honda Civic Vehicle Damage Analysis No. 4, Pages 37 & 38)

Vehicle: **2013 Ford Taurus Operated by Troy Police Sergeant Randall French**

Damage Location/Description: **Left Front Door, Exterior Door Handle Area, Left Rear Door, Upper Forward Area** (*See* Ford Taurus Vehicle Damage Analysis Nos. 1 & 2, Pages 42-44)

Conclusion: **The forensic analysis of the damage present at the exterior door handle area of the left front door, and upper forward exterior door panel of the left rear door, of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French; the forensic analysis of the damage present at the right outside rearview mirror detached from the 2000 Honda Civic EX operated by Edson Thevenin; and the forensic damage matchup thereof revealed contact damage and forceful outside Honda mirror detachment consistent with impact by the left front outside door handle of the faster moving Ford Taurus.**



Images No. 37a, 37b, & 37c. These photographs (previous page and above) depict the forensic matchup of the scuff/scratch marks of the 2013 Ford Taurus with the 2000 Honda Civic right outside rearview mirror prior to and during detachment. The Red Arrows denote areas of black transfer and scuffing present on the Ford Taurus.

The above photograph represents the right outside rearview mirror during detachment due to impact by the left front exterior door handle of the 2013 Ford Taurus, being operated at a faster rate of speed. The mirror will become completely detached from the Honda Civic, and continue its trajectory to final rest in front of the left rear tire of the 2013 Ford Taurus at its stopped location.

B) ***Vehicle:*** **2000 Honda Civic EX Operated by Edson Thevenin**

Damage Location/Description: **Right Rear Door Outside Door Handle** (*See* Honda Civic Vehicle Damage Analysis No. 6, Page 40)

Vehicle: **2013 Ford Taurus Operated by Troy Police Sergeant Randall French**

Damage Location/Description: **Left Rear Quarter Panel, Upper Dog Leg Area** (*See* Ford Taurus Vehicle Damage Analysis No. 4, Page 46)

Conclusion: **The forensic analysis of the damage present at the left rear quarter panel, upper dog leg area of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French; the forensic analysis of the damage present at the right rear exterior door handle of the 2000 Honda Civic EX operated by Edson Thevenin; and the forensic damage matchup thereof revealed contact damage consistent with a sideswipe event of the two motor vehicles; more specifically, that of the Ford Taurus left side/Honda Civic right side impact of the Ford Taurus operated at the faster rate of speed.**

Image No. 39 The above photograph depicts the forensic matchup of the small transfer marks of the left rear fore and quarter panel of the 2013 Ford Taurus with the right rear exterior door handle of the 2000 Honda Civic. The Orange Arrows denote the approximate contact areas.

C) ***Vehicle:*** **2000 Honda Civic EX Operated by Edson Thevenin**

Damage Location/Description: **Right Rear Exterior Side Guard Molding** (*See* Honda Civic Vehicle Damage Analysis No. 7, Page 41)

Vehicle: **2013 Ford Taurus Operated by Troy Police Sergeant Randall French**

Damage Location/Description: **Left Rear Lower Exterior Door Panel and Dog Leg Area** (*See* Ford Taurus Vehicle Damage Analysis No. 5, Page 47)

Conclusion: **The forensic analysis of the damage present at the left rear exterior door panel and dog leg area of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French; the forensic analysis of the damage present at the right rear exterior side guard molding of the 2000 Honda Civic EX operated by Edson Thevenin; and the forensic damage matchup thereof revealed contact damage consistent with a sideswipe event of the two motor vehicles; more specifically, that of the Ford Taurus left side/Honda Civic right side impact of the Ford Taurus operated at the faster rate of speed.**

Image No. 39. The above photograph depicts the forensic matching of the scuff transfer marks of the left rear exterior door panel of the 2013 Ford Taurus with the right rear exterior side guard molding of the 2000 Honda Civic. The Blue Arrows denote the approximate contact areas.

D) *Vehicle:* **2000 Honda Civic EX Operated by Edson Thevenin**

Damage Location/Description: **Front Bumper Cover, Right Side** (*See* Honda Civic Vehicle Damage Analysis No. 5, Page 39)

Vehicle: **2013 Ford Taurus Operated by Troy Police Sergeant Randall French**

Damage Location/Description: **Left Front Fender, Lower Rear Section** (*See* Ford Taurus Vehicle Damage Analysis No. 3, Page 45)

Conclusion: **The forensic analysis of the damage present at the left front lower rear fender panel of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French; the forensic analysis of the damage present at the right side of the front bumper cover of the 2000 Honda Civic EX operated by Edson Thevenin; and the forensic damage matchup thereof revealed damage consistent with a contact event of the two motor vehicles.**

Image No. 48 The above photograph depicts the forensic matchup of the scuff transfer marks of the lower rear panel of the left front fender of the 2013 Ford Taurus with scuff transfer marks of the right side front bumper cover of the 2000 Honda Civic. The Green Arrow denotes the approximate contact areas

E) ***Vehicle:*** **2000 Honda Civic EX Operated by Edson Thevenin**

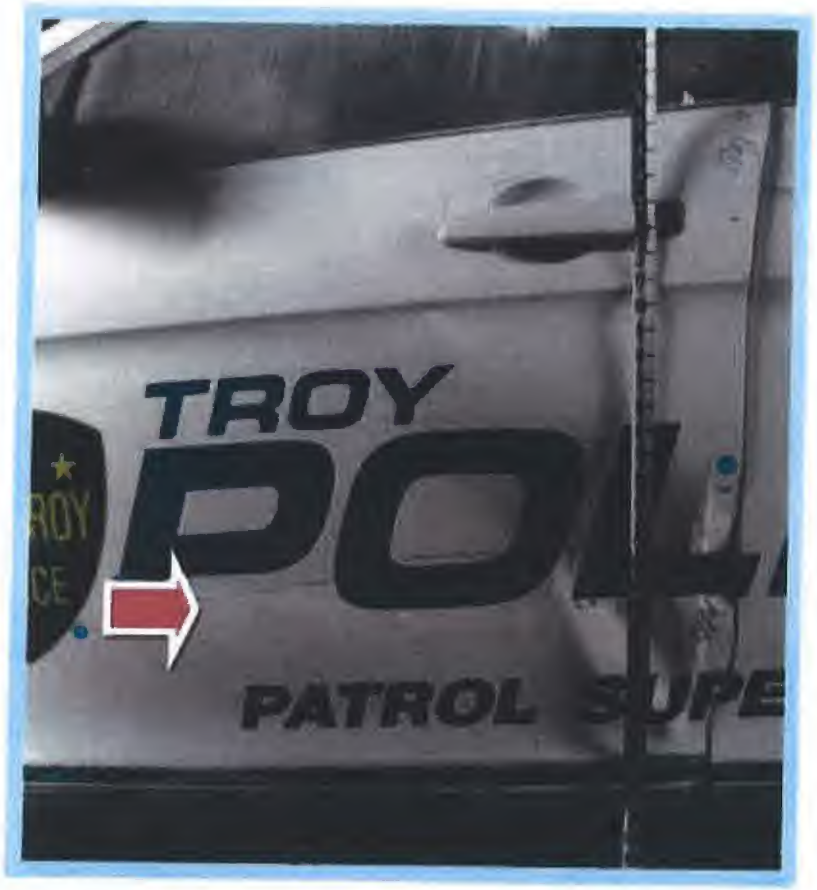
Damage Location/Description: **Right Front Fender** (*See* Honda Civic Vehicle Damage Analysis No. 3, Page 36)

Vehicle: **2013 Ford Taurus Operated by Troy Police Sergeant Randall French**

Damage Location/Description: **Left Front Door, Outer Panel** (*See* Ford Taurus Vehicle Damage Analysis No. 1, Page 42)

Conclusion: **The forensic analysis of the damage present at the left outer front door panel of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French; the forensic analysis of the damage present at the right front outer fender location of the 2000 Honda Civic EX operated by Edson Thevenin; and the forensic damage matchup thereof revealed contact damage consistent with a sideswipe event of the two motor vehicles; more specifically, that of the Ford Taurus left side/Honda Civic right side impact of the Ford Taurus operated at the faster rate of speed.**

-- See Photographs, Following Pages --



Images No. 41a & 41b: These photographs depict the described damage present at the left front outer door panel of the 2013 Ford Taurus and the right front outer fender panel of the 2008 Honda Civic. Note the matching scuffing transfer, as well as the height of the deformation damage resulting from forceful sliding impact. The Red Arrows denote the direction of the damage with obvious increasing intensity.

Images No. 42a & 42b These photographs depict the forensic damage matchup of the 2013 Ford Taurus left front door and 2006 Honda Accord right front fender. The Blue Arrows denote the matched contact areas of the two motor vehicles. The directional damage is consistent with the white Ford Taurus traveling at the fastest rate of speed.

- ***Vehicle Weight Analysis***

The forensic vehicle analysis of this matter was inclusive of the weighing of the two involved motor vehicles -- the 2000 Honda Civic operated by Edson Thevenin; as well as the 2013 Ford Taurus operated by Troy Police Sergeant Randall French. The results of the weighing procedures are as follows:

– ***2000 Honda Civic***

Weight, Total (without operator) = 2441 lbs.

Weight, At Front Right Tire Location (area of fender damage from sideswipe, without operator) = 759 lbs.

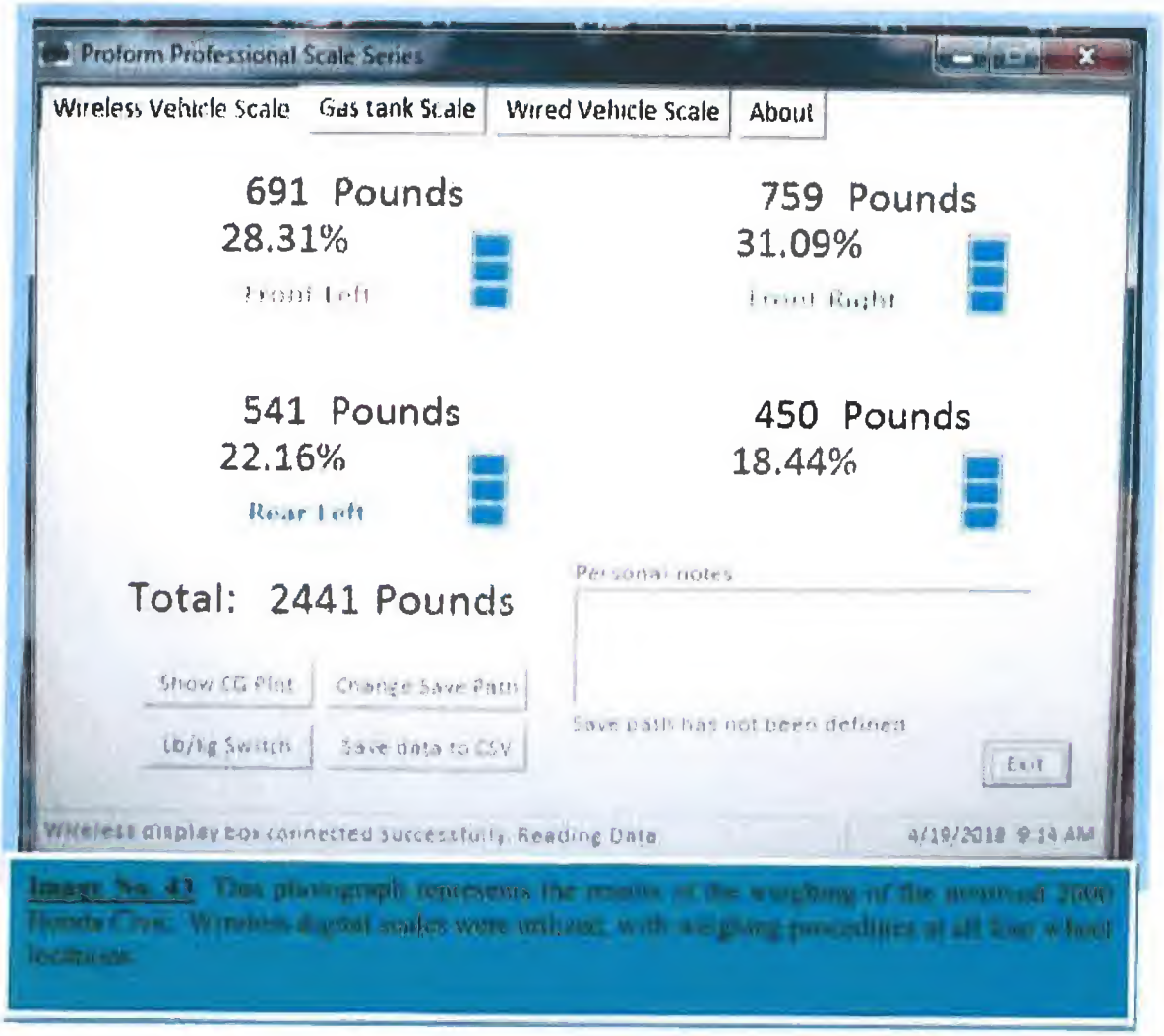


Image No. 43 This photograph represents the results of the weighing of the involved 2000 Honda Civic. Wireless digital scales were utilized, with weighing procedures at all four wheel locations.

-- ***2013 Ford Taurus***

Weight, Total (without operator) = 3850 lbs.

Image No. 44 This photograph represents the results of the weighing of the involved 2013 Ford Taurus. Wireless digital scales were utilized with weighing pressures at all four wheel locations.

METHODOLOGY/ANALYSIS OF DYNAMIC VEHICLE CONTACT

The previously described forensic analyses of the physical evidence present on the left exterior body panels of the Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French, and on the right exterior body panels of the 2000 Honda Civic operated by Edson Thevenin, are clearly consistent with a sideswipe type of vehicular impact of the two motor vehicles, with the 2013 Ford Taurus traveling at a higher rate of speed during the encounter with the 2000 Honda Civic. Given that neither human statements nor roadway physical evidence provide succinct information as to 1) The exact turning radius of the two vehicles during the "U-Turn" maneuver from Hoosick Street to Alternate Route 7 (Collar City Bridge); 2) The exact location of the "U-Turn" maneuver in relation to the easterly end of the guardrail sections of Alternate Route 7 (Collar City Bridge); 3) The exact speed of the two involved vehicles; or 4) The exact location of contact between the two involved vehicles, the following potential scenarios will serve as discussion topics.

Scenario No. 1

The 2000 Honda Civic operated by Edson Thevenin violently impacts the concrete barrier of Alternate Route 7 (Collar City Bridge), with the impact force projecting the left frontal area of the vehicle in a westerly direction along the concrete barrier. The 2000 Honda Civic realizes a clockwise rotation, and ultimately arrives at a stopped location on the roadway. The 2013 Ford Taurus operated by Troy Police Sergeant Randall French then arrives at the location and in doing so contacts the 2000 Honda Civic in a sideswipe manner -- left side of 2013 Ford Taurus to right side of 2000 Honda Civic -- before stopping.

✓ **Facts for Consideration**

1) The post concrete barrier impact location of the 2000 Honda Civic on Alternate Route 7 (Collar City Bridge) was established from a) Roadway physical evidence; b) Concrete barrier physical evidence; and c) Physical dimensions of 2000 Honda Civic, inclusive of wheelbase and track width.

2) The location of the stopped Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French was established from a) Scene photographs; and b) Scene mapping conducted by Troy Police Department personnel.

3) The angle of final rest relationship of the 2000 Honda Civic and the 2013 Ford Taurus at the scene on Alternate Route 7 (Collar City Bridge) following concrete barrier impact by the 2000 Honda Civic would not have allowed a full sideswipe contact of the dynamic 2013 Ford Taurus upon arrival.

4) The trajectory of the right outside mirror of the 2000 Honda Civic, severed by the left exterior door handle of the faster moving 2013 Ford Taurus during sideswipe contact, would have been that of final rest of the mirror unit near the concrete barrier, and not within the westerly lane of travel.

5) The operator of a motor vehicle most typically does not merely elect to suddenly steer to the left and violently impact a concrete barrier for no reason.

✓ **Conclusion, Scenario No. 1**

This described scenario is unsupported by physical evidence, vehicular trajectory, and science.

Image No. 45 Based upon physical evidence and forensic scene mapping, this forensic animation still image represents the stopped locations of the involved 2000 Honda Civic and Troy Police Department 2013 Ford Taurus following concrete barrier impact of the 2000 Honda Civic. Given the opposite approach angle of the 2013 Ford Taurus, sideswipe contact with the 2000 Honda Civic is not possible. Additionally, the photographically documented location of the severed right exterior mirror of the Honda (Red Arrow) would not be achievable, as the trajectory of the mirror would be in a direction towards the concrete barrier.

Scenario No. 2

The 2000 Honda Civic operated by Edson Thevenin violently impacts the concrete barrier of Alternate Route 7 (Collar City Bridge), with the impact force projecting the left frontal area of the vehicle in a westerly direction along the concrete barrier. The 2013 Ford Taurus operated by Troy Police Sergeant Randall French then arrives at the location and stops. As the 2000 Honda accelerates rearward, the right front corner of the vehicle impacts the opened left front door of the Troy Police Department 2013 Ford Taurus, resulting in significant door damage.

✓ **Facts for Consideration**

1) The above scenario has been offered by Craig Fries of Precision Simulations[9]. According to the provided Curriculum Vitae, Mr. Fries is neither a Crash Reconstruction Expert; a Vehicle Crash Damage Analysis Expert; an Automotive Technology Expert; nor a Vehicle Dynamics Expert. Indeed, Mr. Fries is offered as a 3D Forensic Scan Expert.

2) The referenced report of Mr. Fries does not reflect the clockwise rotation of the 2000 Honda Civic due to the violent impact with the concrete barrier, thus improperly representing the angle of the vehicle.

Image No. 46. This scene photograph depicts the wall mark of the sideways sliding right front tire of the involved 2000 Honda Civic (Orange Arrow) resulting from forced westerly trajectory of the front of the vehicle along the concrete barrier due to the severity of the barrier impact. The Black Arrow designates the corresponding physical evidence of the left frontal area of the 2000 Honda Civic during impact trajectory in a westerly direction along the concrete barrier to ultimate stopped vehicle location.

This physical evidence provides the basis for the locations of the two involved vehicles as set forth by this expert.

9 *See* Expert Report of Craig Fries, Troy, SIP 16-003, Exhibit O & Page26.

3) The actual angle of the two stopped vehicles following concrete barrier impact and resulting clockwise rotation of the 2000 Honda Civic, derived from physical evidence and forensic scene mapping, would not have allowed for the impact as provided by the stills of Exhibit O of the Fries report.

4) The report of Mr. Fries provides opinion defying science to the effect that the substantial damage to the outer door panel of the 2013 Ford Taurus was the result of the rearward movement of the 2000 Honda Civic, with the right front of the Honda impacting the opened Ford door. Had this occurred, the opened Ford Taurus door would have merely been slammed shut with minimal damage. The least path of resistance is that of closing the door, as opposed to the amount of energy required to result in the extent of damage sustained by the door skin high strength steel. (It is that of Conservation of Energy Principles.)

5) The report of Mr. Fries does not account for the severing of the right exterior mirror of the 2000 Honda Civic and resulting final rest location of the component, nor the physical evidence of damage at the left outer front door handle of the 2013 Ford Taurus.

6) The report of Mr. Fries does not account for the physical evidence of scuffing/transfer at the left rear exterior front door area of the involved 2013 Ford Taurus.

7) The report of Mr. Fries does not account for the physical evidence of scuffing/transfer at the left rear door exterior area of the involved 2013 Ford Taurus, nor the abrasion wear of the right side molding of the 2000 Honda Civic.

8) The report of Mr. Fries does not account for the physical evidence of scuffing/transfer at the left rear upper dog leg area of the involved 2013 Ford Taurus.

9) The report of Mr. Fries does not account for the physical evidence of scuffing at the left rear lower front fender area of the involved 2013 Ford Taurus, nor the scuffing/transfer at the right side front bumper cover of the 2000 Honda Civic.

10) The report of Mr. Fries erroneously concludes that Sergeant French could not open the driver door of the Ford Taurus due to the Honda presence, supported by Ford Taurus door damage. As previously cited the positioning of the vehicles, based upon physical evidence, would not have allowed for such close contact. Indeed, the left front door of the Ford Taurus proved difficult to open due to the exterior door handle and rear door damage at latch.

✓ Conclusion, Scenario No. 2

This described scenario is unsupported and contradicts physical evidence, vehicular trajectory, and science.

Scenario No. 3

The Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French overtakes the fleeing 2000 Honda Civic operated by Edson Thevenin, with Honda operator Thevenin then initiating aggressive actions to purposely impact the Troy Police Department vehicle.

✓ Facts for Consideration

1) Digital microscopic analyses of the damage sustained to the right side of the 2000 Honda Civic and the left side of the 2013 Ford Taurus reveal that the damage was caused by the faster moving Ford Taurus. Usual and customary aggressive actions are not that of the operator of the slower moving vehicle in such situations.

2) The final rest location of the severed right exterior mirror of the 2000 Honda Civic is that of the left, westerly lane of travel for Alternate Route 7 (Collar City Bridge). Had the 2000 Honda Civic operated by Edson Thevenin been the right swerve aggressor for the full sideswipe contact with the 2013 Ford Taurus, the trajectory of the detached mirror would result in final component rest location on the right side of the highway.

3) Had the 2000 Honda Civic operated by Edson Thevenin been the right swerve aggressor for the full sideswipe contact with the 2013 Ford Taurus, there would be no reason for

operator Thevenin to suddenly initiate a harsh left turn maneuver and violently impact the concrete barrier.

4) Had the 2000 Honda Civic operated by Edson Thevenin been the right swerve aggressor for the full sideswipe contact with the 2013 Ford Taurus, the violent event would have indeed proven emotionally stunning for Troy Police Sergeant Randall French, operating the 2013 Ford Taurus. However, there was no contemporaneous radio transmission by Sergeant French to that effect; nor have there been any subsequent statements by Sergeant French to that effect.

✓ Conclusion, Scenario No. 3

This described scenario is unsupported by physical evidence, vehicular trajectory, and human statements.

Scenario No. 4

The Troy Police Department 2013 Ford Taurus operated by Troy Police Sergeant Randall French overtakes the fleeing 2000 Honda Civic operated by Edson Thevenin, with Ford Taurus operator Sergeant French then initiating aggressive actions to purposely impact the 2000 Honda Civic operated by Edson Thevenin.

✓ Facts for Consideration

1) The above scenario is forensically scientific and consistent with the Vehicle Damage Analysis and Vehicle Damage Matchup as provided by previous sections of this expert report.

2) The kinetic energy of the 2013 Ford Taurus operated by Troy Police Sergeant Randall French significantly exceeded the kinetic energy of the 2000 Honda Civic operated by Edson Thevenin, with the weight of the Ford Taurus of 3850 lbs. (without operator) compared to the weight of the 2000 Honda Civic of 2441 lbs. (without operator).

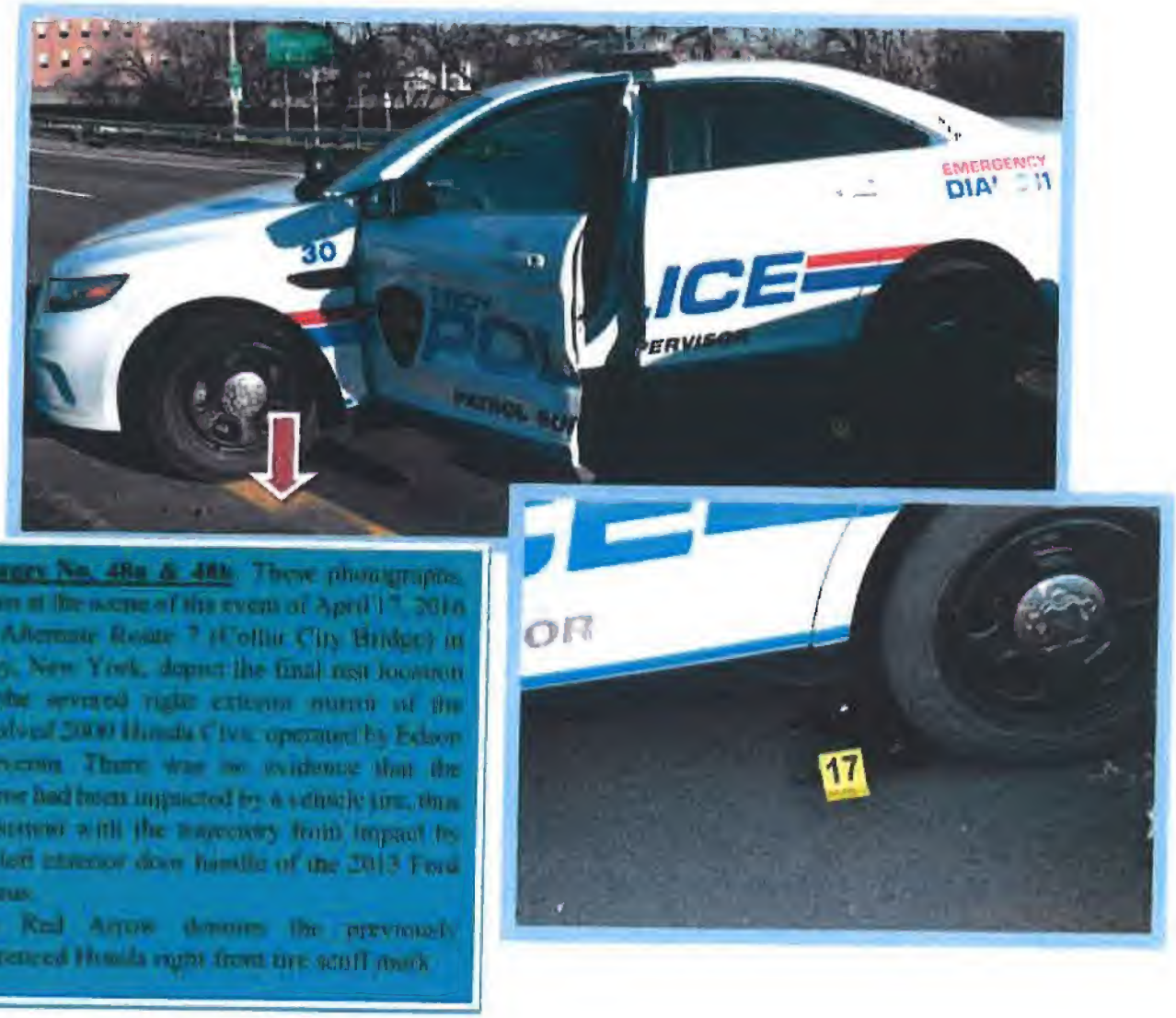
-- See Image, Following Page --

Image No. 47 This photograph, representing the sideswipe impact of the two involved vehicles at the approximate moment of Ford Taurus left front area/Honda Civic right front fender contact damage initiation, depicts the comparison of the overall size of the 2013 Ford Taurus (left) and the 2000 Honda Civic (right). Digital scale weighing of the two vehicles revealed that the 2013 Ford Taurus weighed some 1409 lbs. more than the 2000 Honda Civic (without occupants).

3) The proximity of the 2013 Ford Taurus and the 2000 Honda Civic at the concrete barrier location is consistent with Troy Police Sergeant French providing left turn steering input while operating the vehicle on the right side of the Honda Civic.

4) The sudden and significant left turn input by 2000 Honda Civic operator Edson Thevenin, which resulted in violent concrete barrier impact with no evidence of braking, is consistent with operator actions responding to the forceful left movement of the vehicle due to contact by a larger vehicle.

5) The final rest location of the right outside mirror of the 2000 Honda Civic, with physical evidence of forceful severing due to impact by the left front outside door handle of the faster moving 2013 Ford Taurus, is that of a trajectory consistent with the Honda Civic having been impacted in a full sideswipe maneuver as the Honda was operated in a westerly direction on Alternate Route 7 (Collar City Bridge).



Imagery No. 48a & 48b. These photographs, taken at the scene of this event of April 17, 2016 on Alternate Route 7 (Collar City Bridge) in Troy, New York, depict the final rest location of the severed right exterior mirror of the involved 2000 Honda Civic operated by Edson Thevenin. There was no evidence that the mirror had been impacted by a vehicle tire, thus consistent with the trajectory from impact by the left exterior door handle of the 2013 Ford Taurus.
The Red Arrow denotes the previously referenced Honda right front tire scuff mark.

✓ **Conclusion, Scenario No. 4**

This described scenario is consistent with, and supported by physical evidence, vehicular trajectory, and forensic science.

Image No. 49: This 3D Forensic Still Image, created by and through 1) Physical evidence, 2) Scene mapping data, 3) Vehicle turning radius data, 4) Vehicle dimensions, and 5) forensic science, depicts a scientifically supported scenario with respect to the sideswipe collision of the 2013 Ford Taurus operated by my Fellow Sergeant Randall French and the 2008 Honda Civic operated by Edson Theventin. The actual location of impact, vehicle turning radii, and u-turn locations cannot be accurately established.

Note the trajectory of the right exterior mirror of the 2008 Honda from forceful separation of sideswipe contact to the known location of final rest.

SUMMARY/OPINION/CONCLUSION

The forensic vehicle autopsy procedures, vehicle damage forensic analyses, and related crash reconstruction analyses with respect to the events of April 17, 2016 at Alternate Route 7 (Collar City Bridge) in Troy, New York reveal the following conclusions.

1) The forensic vehicle autopsy of the 2000 Honda Civic EX operated by Edson Thevenin revealed absolutely no motor vehicle mechanical, electrical, or computer control deficiencies existing prior to, or at the time of impact with the concrete barrier of Alternate Route 7 (Collar City Bridge) which would have contributed to the cause of the vehicle dynamics or impact. This forensic investigation and analysis divulged evidence of a vehicle which was, prior to crash damage resulting from the violent impact with the concrete barrier, unequivocally capable of proper operation, steering, and stopping maneuvers.

2) The post impact acceleration analysis of the 2000 Honda Civic operated by Edson Thevenin revealed that the vehicle was capable of forward and rearward movement under engine power. However, due to the substantially increased rolling resistance friction resulting from the significant front tire toe out condition sustained during concrete barrier impact, greatly increased accelerator input for such operation was required. Additionally, the front tire toe-out condition resulted in notably reduced turning radii of the vehicle.

3) Forensic analysis of scene physical evidence as well as the physical evidence of the 2013 Ford Taurus and 2000 Honda Civic revealed compelling substantiation of full, forceful vehicular sideswipe impact -- consistent with the 2013 Ford Taurus operated by Troy Police Sergeant French overtaking and impacting the 2000 Honda Civic operated by Edson Thevenin.

Signed: Brian F. Chase	August 20, 2018
Brian F. Chase, Chief Investigator	Date

Addendum A

Vehicle Autopsy Inspection Report, 2000 Honda EX

Comprehensive Motor Vehicle Services & Consulting

18 Loudon Road #1688 ♦Concord, NH 03302-1688

Phone:* (603) 225-5662 ♦*Fax:* (603) 226-4870 ♦*E-mail: VehicleAutopsy@aol.com

Brian F. Chase, Senior Investigator

www.VehicleAutopsy.com

VEHICLE AUTOPSY® INSPECTION REPORT

Case # **CMVSC-18-IA-245** Requesting Agency: **Troy, New York Police Department**

Requesting Agency Case #: **BC38338**

Consent Form: **N/A**

Search Warrant: **N/A** Issuing Jurisdiction: **N/A**

CRASH/INCIDENT INFORMATION

Date: **4/17/2016** Time: **0330** Location: **WB Lane of Collar City Bridge, Troy, NY** Fatal: ✓

Victim(s): **Edson A. Thevenin (DOB 06/30/1978)**

POST INSPECTION INFORMATION

Date:	**4/18/2018** **4/19/2018**	Time Started:	**0900** **0900**	Time Completed:	**1830** **1500**

Location of Inspection: **Troy Police Department Garage, Troy, New York**

Assisted By: **J.M. Chase (CMVSC)**

VEHICLE INFORMATION

Owner: **Cinthia Cyrille** Address: **410 Vermont View Dr., Watervliet, NY 12189**

Operator: **Edson A. Thevenin** Address: **410 Vermont View 4-10, Watervliet, NY 12189**

Year: **2000** Make: **Honda** Model: **Civic EX**

Body Style: **2 Door Coupe** Color: **Black**

VIN: **1HGEJ8248YL105513** Reg.: **FYZ9818** State: **NY** Mileage: **213722**

PHOTOGRAPHS

Photos Taken: **Canon EOS 6D** Taken By: **B. F. Chase**

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

INSPECTION STICKER INFORMATION

Sticker #: GN374926 State: NY Issue Date: UNK Expiration Date: 6/16/2017

Reg #: FYZ9818 Station #: UNK Mechanic #: UNK

Mileage at Inspection: UNK V.I.N.: 1HGEJ8248YL105513

V.I.N. DEFINED

V.I.N.: 1HGEJ8248YL105513 Breakdown Attached: VinLink Report

VEHICLE OPTIONS

Front Wheel Drive: ✓

Rear Wheel Drive: N/A

4 Wheel/All Drive: N/A

Engine Displacement: L4; 1.6 L (1595 cc); VTEC; MFI; 123-127 HP

Transmission Type: 4 Speed Automatic

Shifter Location: Center Console Position @ Inspection: Neutral

Shift Pattern: P-R-N-D4-D3-2 Cruise Control: ✓

Drive: FWD Power Steering: ✓ Power Brakes: ✓

Electric Door Locks: ✓ Electric Windows: ✓

Windshield Wiper Type: Summer Number of Speeds: Variable Intermittent

Windshield Wiper Position: On

Headlamp Switch Position: Parking Lights

Hi/Low Beam Dimmer Switch Position: Low

Fan Blower Motor Speed: Full Fan Position of Switch: Defrost

Temperature Control: Full Hot

Air Direction Control Position: Defrost

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

VEHICLE OPTIONS (Continued)

Radio Equipped: ✓ Activated: **UNK**

Speaker Fade: **UNK** Speaker Balance: **UNK**

Cassette or CD Player Equipped: _____ Activated: **UNK**

Volume Level: **UNK**

Air Bags: **Equipped** Deployed: **No**

Restraint System Type: **Active Restraints**

Front Seat Design: **Bucket** Head Rests: **Left and Right***

Rear Seat Design: **Bench** Head Rests: **Incorporated**

Front Seat Position: **Right front seat forward**

Interior Rearview Mirror: ✓ Exterior Mirror(s): **Left and Right****

Equipped with Floor Mats: ✓ Involvement: **None**

Equipped with Visors: ✓ Position @ Inspection: **Up**

Horn Operation: **Operational**

NOTES: * Left and right front seat headrests discovered in rear seat
**** Right outside mirror detached from vehicle.**
Sunroof intact.
Blue Tooth Audio System (Model# MEX-N5000BT)

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

DAMAGE

See companion report entitled Vehicle Autopsy Investigation Summary.

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

TIRES

Right Front Make: **Venezia Crusade SXT** Size: **195/55R15 85V**

Design: **M+S** Load Rating: **515 kg (1135 lbs)** Tread Depth: **See page 7**

DOT#: **YCAC OPCR 2815** Maximum Pressure Rating: **300 kPa (44 psi)**

Actual Pressure: **19.3 psi** Original Tread Depth: **10/32"**

UTQG Ratings: Treadwear: **500** Traction: **A** Temperature: **A**

Construction: Sidewall: **1 ply polyester** Tread: **1 ply polyester, 2 plies steel, 1ply nylon**

Rims: **Velox Alloy** # of Lug Nuts/Studs: **4**

Week of Manufacture: **28th week of 2015** Location of Manufacturer: **The Dayton Tire & Rubber Co. Albany, Georgia, USA**

Damage: **Unremarkable**

Left Front Make: **Venezia Crusade SXT** Size: **195/55R15 85V**

Design: **M+S** Load Rating: **515 kg (1135 lbs)** Tread Depth: **See page 7**

DOT#: **YCAC OPCR 2815** Maximum Pressure Rating: **300 kPa (44 psi)**

Actual Pressure: **20.1 psi** Original Tread Depth: **10/32"**

UTQG Ratings: Treadwear: **500** Traction: **A** Temperature: **A**

Construction: Sidewall: **1 ply polyester** Tread: **1 ply polyester, 2 plies steel, 1 ply nylon**

Rims: **Velox Alloy** # of Lug Nuts/Studs: **4**

Week of Manufacture: **28th week of 2015** Location of Manufacturer: **The Dayton Tire & Rubber Co. Albany, Georgia, USA**

Damage: **Inner wheel damaged at outer bead area - 3 o'clock position (tire orientated with valve stem at the 12 o'clock position)). Outer wheel damaged at outer bead area (opposite inner damage). Tread scuffing from concrete barrier impact.**

Comprehensive Motor Vehicle Services & Consulting

CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

TIRES (Continued)

Right Rear Make: **Venezia Crusade SXT** Size: **195/55R15 85V**

Design: **M+S** Load Rating: **515 kg (1135 lbs)** Tread Depth: **See page 7**

DOT#: **YCAC OPCR 2815** Maximum Pressure Rating: **300 kPa (44 psi)**

Actual Pressure: **20.9 psi** Original Tread Depth: **10/32 "**

UTQG Ratings: Treadwear: **500** Traction: **A** Temperature: **A**

Construction: Sidewall: **1 ply polyester** Tread: **1 ply polyester, 2 plies steel, 1 ply nylon**

Rims: **Velox Alloy** # of Lug Nuts/Studs: **4**

Week of Manufacture: **28th week of 2015** Location of Manufacturer: **The Dayton Tire & Rubber Co. Albany, Georgia, USA**

Damage: **Unremarkable**

Left Rear Make: **Venezia Crusade SXT** Size: **195/55R15 85V**

Design: **M+S** Load Rating: **515 kg (1135 lbs)** Tread Depth: **See page 7**

DOT#: **YCAC OPCR 2915** Maximum Pressure Rating: **300 kPa (44 psi)**

Actual Pressure: **21.1** Original Tread Depth: **10/32"**

UTQG Ratings: Treadwear: **500** Traction: **A** Temperature: **A**

Construction: Sidewall: **1 ply polyester** Tread: **1 ply polyester, 2 plies steel, 1 ply nylon**

Rims: **Velox Alloy** # of Lug Nuts/Studs: **4**

Week of Manufacture: **29th week of 2015** Location of Manufacturer: **The Dayton Tire & Rubber Co. Albany, Georgia, USA**

Damage: **Unremarkable**

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

TIRES (Continued)

Left Front Tire

Location	Tread Groove*			
12	8.375	9.25	9.25	8.75
3	9.25	9.25	9.25	9.00
6	8.75	9.50	8.75	8.50
9	8.75	9.75	9.50	9.00

Right Front Tire

Location	Tread Groove*			
12	9.50	9.50	9.25	9.50
3	9.50	9.75	9.75	9.50
6	9.25	9.25	9.25	9.50
9	9.50	9.25	9.50	9.25

Left Rear Tire

Location	Tread Groove*			
12	9.50	9.75	9.50	9.25
3	9.50	9.75	9.50	9.50
6	9.50	9.50	9.25	9.50
9	9.50	9.75	9.75	9.75

Right Rear Tire

Location	Tread Groove*			
12	9.50	9.50	9.00	9.25
3	9.25	9.50	9.50	9.50
6	9.25	9.25	9.50	9.50
9	0	0	0	0

*** Each tread groove is measured in 32^{nds} of an inch from outside tread groove to inside tread groove with valve stem at the 12 o'clock position.**

Tire Durometer Readings

Left Front	75
Right Front	74
Left Rear	75
Right Rear	70

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

LAMPS

Headlamps: Switch Position @ Inspection: **Park** Type: **Halogen**

Condition: **Left impact damaged; Right intact**

Tail lamps: Switch Position @ Inspection: **Park** Type: **7443**

Condition: **See narrative**

Brake Lamps: Type: **7443** Condition: **See narrative**

Auxiliary Lamps: Type: **N/A** Condition: **N/A**

Switch Position @ Inspection: **N/A**

Circuit Testing Done: Rear Tail/Stop Lamp Circuits

Lamps Removed For Examination: **Rear Tail/Stop Lamp bulbs. See narrative.**

GLASS

Windshield: Type: **Shaded/tinted** Condition: **Bullet holes**

Left Front: Position: **Up** Condition: **Intact**

Right Front: Position: **Up** Condition: **Intact**

Left Rear: Type: **Fixed** Condition: **Intact**

Right Rear: Type: **Fixed** Condition: **Intact**

Rear Windshield: Type: **OM/Defroster** Condition: **Intact**

Aftermarket Window Tint: **None**

Tint Location: **N/A** % Light Transmittance: **N/A**

Notes:

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CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

WIPERS

Front: Type: **Summer** Condition: **Intact**

Rear: Type: **N/A** Condition: **N/A**

SUSPENSION

Front: Type: **Coil over struts** Condition: **See narrative**

Rear: Type: **Coil over struts** Condition: **Unremarkable**

Shock Absorber/Strut Condition:

LF **No seepage** RF **No seepage** LR **No seepage*** RR **No seepage***

Wheel Bearing Condition:

LF **NMP** RF **NMP** LR **NMP** RR **NMP**

Ball Joint Condition:

Front:	Right Upper:	**NMP**	Right Lower:	**NMP**
	Left Upper:	**NMP**	Left Lower:	**NMP**
Rear	Right Upper:	**NMP**	Right Lower:	**NMP**
"Bushings"	Left Upper:	**NMP**	Left Lower:	**NMP**

Notes: * Replacements

STEERING

Tie Rods: Condition: **Left Front deformation (crash related)**

Modified Steering Wheel: **No** Steering Wheel Free Play: **NMP: steering wheel deformation from impact**

Engine Condition @ Inspection: **Off**

Fluid Level: **Sufficient** Fluid Condition: **Unremarkable**

Pump Condition: **Intact; no seepage** Belt Condition: **Impact damage resulted in belt departure**

Rack & Pinion: **Intact; no leaks; NMP**

Comprehensive Motor Vehicle Services & Consulting

CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

STEERING (continued)

Linkages Condition: **NMP: bent tie rod at left front (crash related)**

Full Motion Condition: **Limited due to toe out condition from crash damage.**

Notes:

EXHAUST

Type: **Aftermarket** Modification: **Skunk 2 Racing Mega Power exhaust system***

Exhaust Leaks: **None detected** Hanger Condition: **Unremarkable**

Notes: ***PN: S2-415-99-1470-56974**

BRAKE SYSTEM

Reservoir Type/Design: **Plastic, dual circuit; power booster**

Fluid Condition: **Sufficient** Fluid Level: **Sufficient**

Port Clogged: **No** ABS/Non-ABS: **ABS**

Brake Pedal Reserve: **7" Extended; 4.75" Depressed.**

Brake Line Condition: **Intact, no kinking or chafing**

Emergency Brake Type: **Hand activated/released** Position @ Inspection: **Released**

Operation Condition: **Operational**

Rotational Resistance: LF - In/Pounds RF - In/Pounds
LR - In/Pounds RR - In/Pounds

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

BRAKE SYSTEM (continued)

Right Front Assembly Type: **Single piston floating caliper**

Rotor Thickness: **21.54 mm** Minimum Limit: **19.00 mm**

Lining Design: **Bonded** Condition: **Unremarkable**

Friction Material Thickness: Inside: **8.30 – 9.13 mm**
Outside: **8.59 – 9.23 mm**

Brake Piston & Seal: **No binding; no seepage; piston moves freely within bore**

Wheel Cylinder Condition: **N/A** Self Adjuster Condition: **N/A**

Brake Dust Presence: **None detected**

Notes:

Left Front Assembly Type: **Single piston floating caliper**

Rotor Thickness: **21.03 mm** Minimum Limit: **19.00 mm**

Lining Design: **Bonded** Condition: **Unremarkable**

Friction Material Thickness: Inside: **8.25 – 9.43 mm**
Outside: **8.71 – 9.71 mm**

Brake Piston & Seal: **No binding; no seepage; piston moves freely within bore**

Wheel Cylinder Condition: **N/A** Self Adjuster Condition: **N/A**

Brake Dust Presence: **None detected**

Notes:

Comprehensive Motor Vehicle Services & Consulting

CONTINUATION OF VEHICLE AUTOPSY INSPECTION REPORT

Case Number(s)	Investigator
CMVSC-18-VA-245	BRIAN F. CHASE

BRAKE SYSTEM (continued)

Right Rear Assembly Type: **Anchor Pin Drum Assembly**

Drum Diameter: **199.52 mm** Maximum Limit: **201 mm**

Lining Design: **Bonded** Condition: **Unremarkable**

Friction Material Thickness: Primary: **4.34 – 5.46 mm**
Secondary: **5.48 – 5.69 mm**

Brake Piston & Seal: **N/A**

Wheel Cylinder Condition: **No seepage** Self Adjuster Condition: **Unremarkable**

Brake Dust Presence: **Normal brake dust presence**

Notes:

Left Rear Assembly Type: **Anchor Pin Drum Assembly**

Drum Diameter: **199.94 mm** Maximum Limit: **201 mm**

Lining Design: **Bonded** Condition: **Unremarkable**

Friction Material Thickness: Primary: **3.85 – 5.11 mm**
Secondary: **4.54 – 5.75 mm**

Brake Piston & Seal: **N/A**

Wheel Cylinder Condition: **No seepage** Self Adjuster Condition: **Unremarkable**

Brake Dust Presence: **Normal brake dust presence**

Notes:

Addendum B

VinLink Report and Design Specifications, 2000 Honda Civic

Report type: BASIC

VIN: 1HGEJ8248YL105513

VIN number: 1HGEJ8248YL105513

DECODED: Honda - Civic (2000)

Model Year	2000
Make	Honda
Model	Civic
Trim Level	EX
Body Type	2 Door Coupe
Manufacturer	Honda of American Mfg. Inc.
Production Seq. Number	105513
Engine Type	L4, 1.6L (1595 cc); VTEC; MFI
Fuel Type	Gasoline
Horsepower	123-127HP
Engine Code	J8
Engine Series Code	D16Y8
Drive Line Type	FWD
Transmission	4 Speed Automatic
Vehicle Type	Passenger Car
Vehicle Class	Small Car
Country	UNITED STATES
Assy. Plant	East Liberty Ohio
GVWR Class	Class B: 3,001-4,000 lb
Check Digit	8
MPG	M5:22-29-25/A4:24-32-27/M5:25-32-28/M5:27-33-30
AAIA	14380/150158
AAIA ENGINE	5753
AAIA TRANSMISSION	1523/1640/1522/1540/2346
AAIA VehicleID	14380/14380
AAIA EngineConfigID	5753/5753
AAIA TransmissionID	1523/1523
AAIA BodyStyleConfigID	7/7
AAIA BrakeConfigID	8/9
AAIA DriveTypeID	5/5
AAIA SpringTypeConfigID	1/1

Design Specifications

	ITEM		METRIC	ENGLISH	NOTE
DIMENSIONS	Overall Length				
	2-door Coupe/4-door Sedan	('96 – 98)	4,445 mm	175.0 in	
		('99, '00)	4,450 mm	175.2 in	
	2-door Hatchback	('98, '97)	4,170 mm	164.2 in	
		('98 – 00)	4,180 mm	164.6 in	
	Overall width		1,705 mm	67.1 in	
	Overall height 2-door Coupe/2-door Hatchback		1,375 mm	54.1 in	
	4-door Sedan		1,390 mm	54.7 in	
	Wheelbase		2,620 mm	103.1 in	
	Track Front/Rear		1,475/1,475 mm	58.1/58.1 in	
	Ground Clearance		150 mm	5.9 in	
	Seating Capacity		Five		
WEIGHT (USA)	Gross Vehicle Weight Rating (GVWR)				
	2-door Coupe	HX M/T, DX M/T	——	3,290 lbs	
		HX CVT ('96)	——	3,320 lbs	
		HX CVT ('97, '98)	——	3,330 lbs	
		HX CVT ('99)	——	3,360 lbs	
		DX A/T ('96 – 98)	——	3,290 lbs	
		DX A/T ('99, '00)	——	3,310 lbs	
		EX	——	3,440 lbs	
		SI	——	3,480 lbs	
	2-door Hatchback	CX, DX ('96, '97)	——	3,285 lbs	
		CX, DX ('98)	——	3,290 lbs	
		CX ('99, '00)	——	3,290 lbs	
		DX M/T ('99, '00)	——	3,290 lbs	
		DX A/T ('99, '00)	——	3,330 lbs	
	4-door Sedan	DX, LX, DX-V	——	3,330 lbs	
		EX	——	3,460 lbs	
WEIGHT (CANADA)	Gross Vehicle Weight Rating (GVWR)				
	2-door Coupe	DX ('96)	1,500 kg	——	
		DX ('97 – 00)	1,510 kg	——	
		DX-G	1,510 kg	——	
		Si ('96)	1,560 kg	——	
		Si ('97 – 00)	1,570 kg	——	
		SiR	1,590 kg	——	
	2-door Hatchback	CX, CX-G ('96)	1,495 kg	——	
		CX, CX-G ('97)	1,505 kg	——	
		CX-G ('98)	1,510 kg	——	
		CX ('98 – 00)	1,510 kg	——	
		DX M/T, SE M/T	1,510 kg	——	
		DX A/T, SE A/T	1,530 kg	——	
	4-door Sedan	LX, LX-V	1,510 kg	——	
		EX M/T	1,510 kg	——	
		EX A/T	1,540 kg	——	
ENGINE	Type		Water-cooled, 4-stroke SOHC*1, SOHC VTEC*2, SOHC VTEC-E*3, DOHC VTEC*4 gasoline engine		*1: D16Y7 *2: D16Y8 *3: D16Y5 *4: B16A2
	Cylinder Arrangement		Inline 4-cylinder, transverse		
	Bore and Stroke	D16Y5, D16Y7, D16Y8	75.0 x 90.0 mm	2.95 x 3.54 in	
		B16A2	81.0 x 77.4 mm	3.19 x 3.05 in	
	Displacement	D16Y5, D16Y7, D16Y8	1,590 cm³	97.0 cu-in	
		B16A2	1,595 cm³	97.3 cu-in	
	Compression Ratio	D16Y5, D16Y7	9.4		
		D16Y8	9.6		
		B16A2	10.2		
	Valve Train		Belt driven, 4 valve per cylinder		
	Lubrication System		Forced and wet sump, trochoid pump		
	Oil Pump Displacement at 6,800 engine rpm				
		D16Y5, D16Y7, D16Y8	33.4 ℓ (35.3 US qt, 29.4 Imp qt)/minute		
		B16A2	43.8 ℓ (46.3 US qt, 38.6 Imp qt)/minute		
	Water Pump Displacement				
	at 6,000 engine rpm	D16Y5, D16Y7, D16Y8	125 ℓ (132 US qt, 110 Imp qt)/minute		
		B16A2	140 ℓ (148 US qt, 123 Imp qt)/minute		
	Fuel Required	D16Y5, D16Y7, D16Y8	UNLEADED gasoline with 86 Pump Octane Number or higher		
		B16A2	Premium UNLEADED gasoline 91 Pump Octane Number or higher		
STARTER	Type/Make		Gear reduction/MITSUBA		
	Normal Output		1.0 kW, 1.2 kW		
	Nominal Voltage		12 V		
	Hour Rating		30 seconds		
	Direction of Rotation		Clockwise as viewed from gear end		

	ITEM		METRIC	ENGLISH	NOTES
STARTER (cont'd)	Weight MITSUBA 1.0, 1.2 kW		3.4 kg	7.5 lbf	
CLUTCH	Clutch Type	M/T A/T CVT	Single plate dry, diaphragm spring Torque converter Multi plates wet sanp, hydraulic		
	Clutch Facing Area	M/T	160 cm²	25 sq-in	
TRANSMISSION	Transmission Type	M/T A/T CVT	Synchronized 5-speed forward, 1 reverse 4-speed automatic, 1 reverse Non-stage speed forward, 1 reverse		
	Primary Reduction		Direct 1 : 1		
	Manual transmission		Engine type		
			D16Y5 / D16Y7 / D16Y8 / B16A2		
	Gear Ratio	1st	3.250 / 3.250 / 3.250 / 3.230		*1: 2-door Hatch back *2: 2-door Coupe, and 4-door Sedan
		2nd	1.782 / 1.782 / 1.909 / 2.105		
		3rd	1.172 / 1.172 / 1.250 / 1.458		
		4th	0.909 / 0.909 / 0.909 / 1.107		
		5th	0.702 / 0.702 / 0.702 / 0.875		
		Reverse	3.153 / 3.153 / 3.153 / 3.000		
	Final Reduction	Gear ratio	3.722 / 3.722*1/4.058*2 / 4.250 / 4.266		
		Gear type	Single helical gear		
	Automatic transmission		Engine type		
			D16Y7 / D16Y8		
	Gear Ratio	1st	2.600 / 2.722		
		2nd	1.468 / 1.516		
		3rd	0.926 / 0.975		
		4th	0.638 / 0.638		
		Reverse	1.954 / 1.954		
	Final Reduction	Gear ratio	4.357 / 4.357		
		Gear type	Single helical gear		
	CVT Gear Ratio	Low – O.D. Reverse	2.468 – 0.449 2.466		
	Secondary Reduction Gear Ratio		1.333		
	Final Reduction Gear Ratio		4.357		
AIR CONDITIONING	Cooling Capacity		3,530 Kcal/h	14,000 BTU/h	
	Compressor	Type/Make	Scroll/SANDEN		
		No. of Cylinders	—		
		Capacity	85.7 mℓ/rev	5.22 cu-in/rev	
		Max. Speed	10,000 rpm		
		Lubricant Capacity	130 mℓ	4 1/3 fl oz, 4.6 Imp oz	SP-10
	Compressor	Type/Manufacturer	Swash-plate/DENSO		
		No. of Cylinder	10		
		Capacity	155.3 mℓ/rev	9.4 cu-in/rev	
		Max. Speed	76,000 rpm		
		Lubricant Capacity	140 mℓ	4 2/3 fl oz, 4.9 Imp oz	
		Lubricant Type	ND-OIL8		
	Condenser	Type	Corrugated fin		
	Evaporator	Type	Corrugated fin		
	Blower	Type	Sirocco fan		
		Motor Input	200 W/12 V		
		Speed Control	4-speed variable		
		Max. Capacity	460 m³/h	16,200 cu-ft/h	
	Temperature Control		Air-mix type		
	Compressor Clutch	Type	Dry, single plate, poly-V-belt drive		
		Power Consumption	40 W max./12 V at 68°F (20°C)		
	Refrigerant	Type	HFC-134a (R-134a)		
		Quantity	650 $^{0}_{-50}$ g	22.9 $^{0}_{-1.8}$ oz	

(cont'd)

Design Specifications

(cont'd)

	ITEM		METRIC	ENGLISH	NOTE
STEERING SYSTEM	Type	P/S	Power assisted, rack and pinion		
		M/S	Rack and pinion		
	Overall Ratio	P/S	17.7		
		M/S	20.3		
	Turns, Lock-to-Lock	P/S	3.6		
		M/S	4.1		
	Steering Wheel Dia.		380 mm	15.0 in	
SUSPENSION	Type	Front and Rear	Independent double wishbone, coil spring		
		Front and Rear	Telescopic, hydraulic nitrogen gas-filled		
WHEEL ALIGNMENT	Camber	Front	0°00'		
		Rear	– 1°		
	Caster	Front	1°40'		
	Total Toe	Front	In 1 mm	In 1/16	
		Rear	In 2 mm	In 1/16	
BRAKE SYSTEM	Type	Front	Power assisted self-adjusting ventilated disc		
		Rear	Power assisted self-adjusting solid disc		
			Power assisted self-adjusting drum		
	Pad Surface Area	Front	37.5 cm^2 x 4	5.8 sq-in x 4	5410 stamped on the caliper body
			44.1 cm^2 x 4	6.84 sq-in x 4	2056 stamped on the caliper body
		Rear	67.2 cm^2 x 4	10.4 sq-in x 4	Drum
			21.2 cm^2 x 4	3.3 sq-in x 4	Disc
	Parking Brake	Type	Mechanical actuating, rear two wheel brakes		
TIRE	Size and Pressure		See tire information label		
WASHER	Capacity	2-door Coupe/4-door Sedan	2.6 ℓ (2.6 US qt, 2.2 Imp qt)		USA model
			4.5 ℓ (4.8 US qt, 4.0 Imp qt)		Canada model
		2-door Hatchback	2.6 ℓ (2.6 US qt, 2.2 Imp qt)		DX
			4.5 ℓ (4.8 US qt, 4.0 Imp qt)		Except DX
ELECTRICAL	Battery		12 V – 38 AH/5 HR		
	Starter		12 V – 1.0 kW, 1.2 kW		
	Alternator		12 V – 75 A, 80 A		
	Fuses	In Under-dash Fuse/Relay Box	7.5 A, 10 A, 15 A, 20 A		
		In Under-hood Fuse/Relay Box	7.5 A, 10 A, 15 A, 20 A, 30 A, 40 A, 80 A		
		In Under-hood ABS Fuse/Relay Box	7.5 A, 20 A, 40 A		
	Headlights		12 V – 60/55 W		
	Front Turn Signal/Parking Lights		12 V – 21/5 W		
	Rear Turn Signal Lights		12 V – 21 W		
	Brake/Taillights		12 V – 21/5 W		
	Inner Taillights*2		12 V – 5 W		
	High Mount Brake Light		12 V – 18 W*2, 21 W*1, *3		
	Back-up Lights		12 V – 21 W		
	License Plate Lights		12 V – 5 W		
	Ceiling Light		12 V – 8 W (With moonroof)		
			12 V – 5 W (Without moonroof)		
	Trunk Lights		12 V – 3.4 W*4, 5 W*5		
	Gauge Lights		12 V – 1.4 W, 3 W		
	Indicator Lights		12 V – 1.12 W, 1.4 W		
	Illumination and Pilot Lights		12 V – 0.84 W, 1.4 W		
	Heater Control Panel Lights		12 V – 1.4 W		

P/S: Power Steering M/S: Manual Steering
*1: 2-door Coupe *2: 2-door Hatchback *3: 4-door Sedan
*4: USA (HAM), Canada (HCM) produced *5: Japan produced

Addendum C

3D Forensic Still Images

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Department

CMVSC-18-IA-245

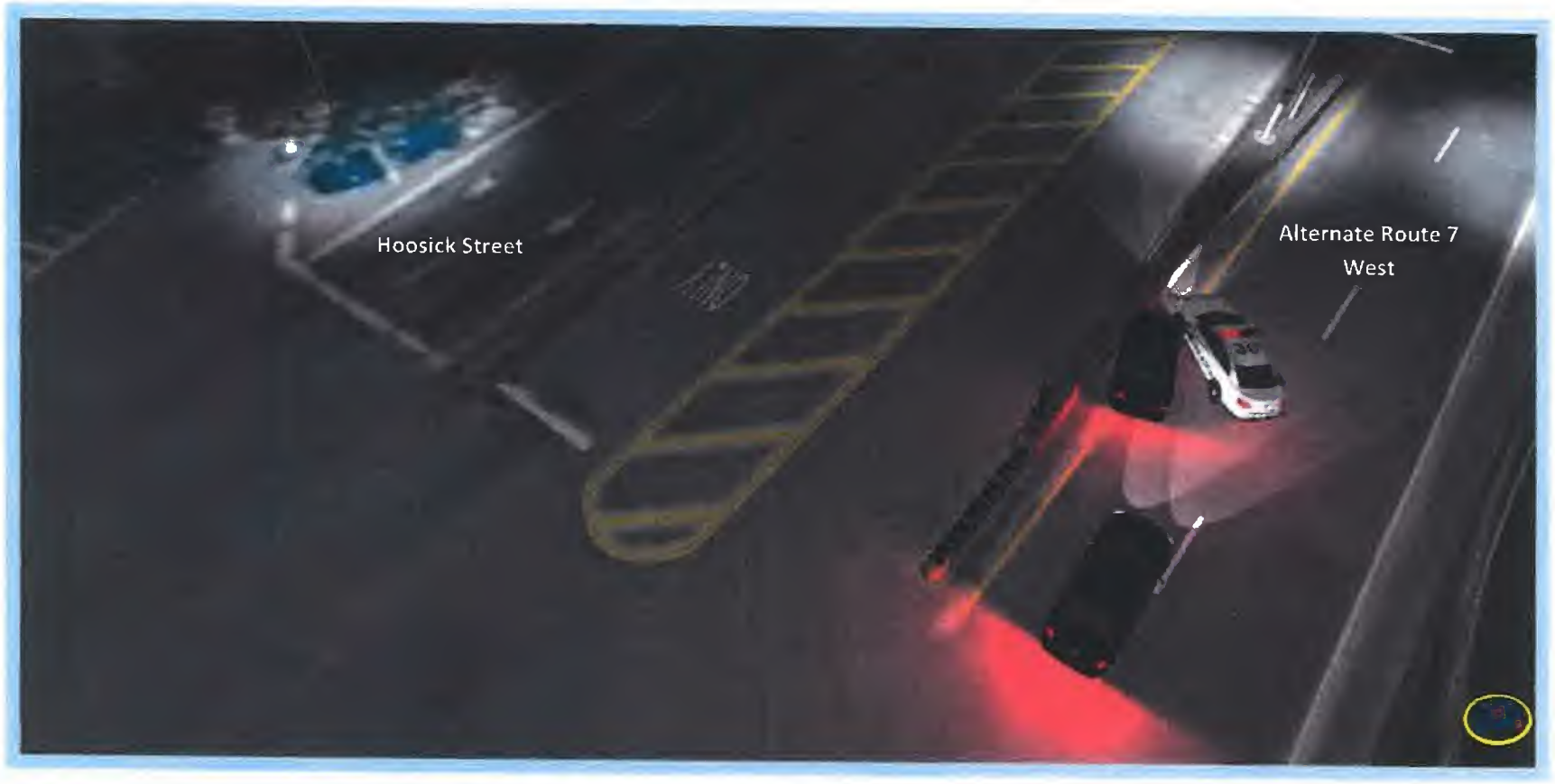
ATTORNEYS' EYES ONLY

3D Forensic Still Image No. 4, Report Page 7.

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Department

CMVSC-18-IA-245



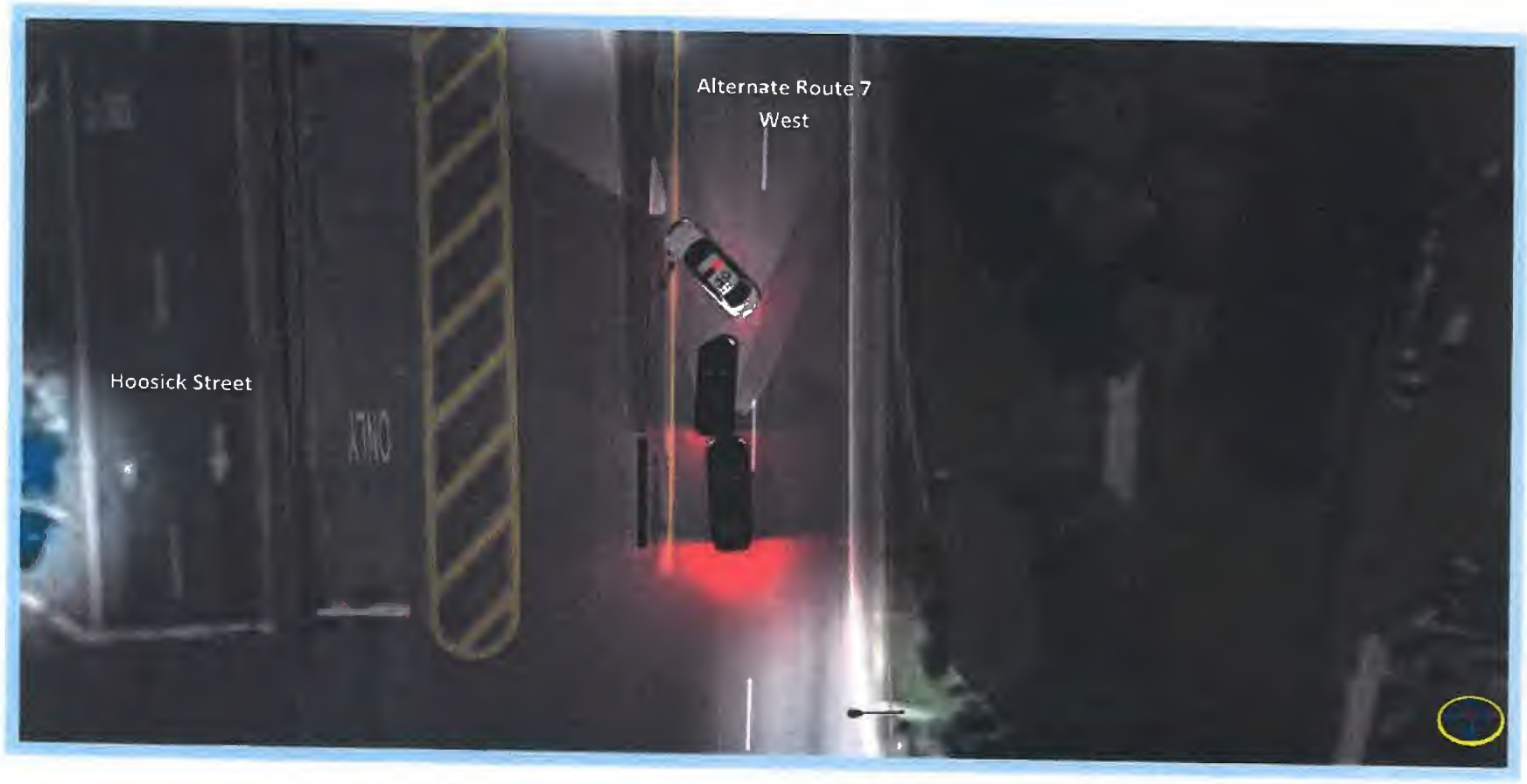
3D Forensic Still Image No. 5, Report Page 8.

ATTORNEYS' EYES ONLY

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Department

CMVSC-18-IA-245

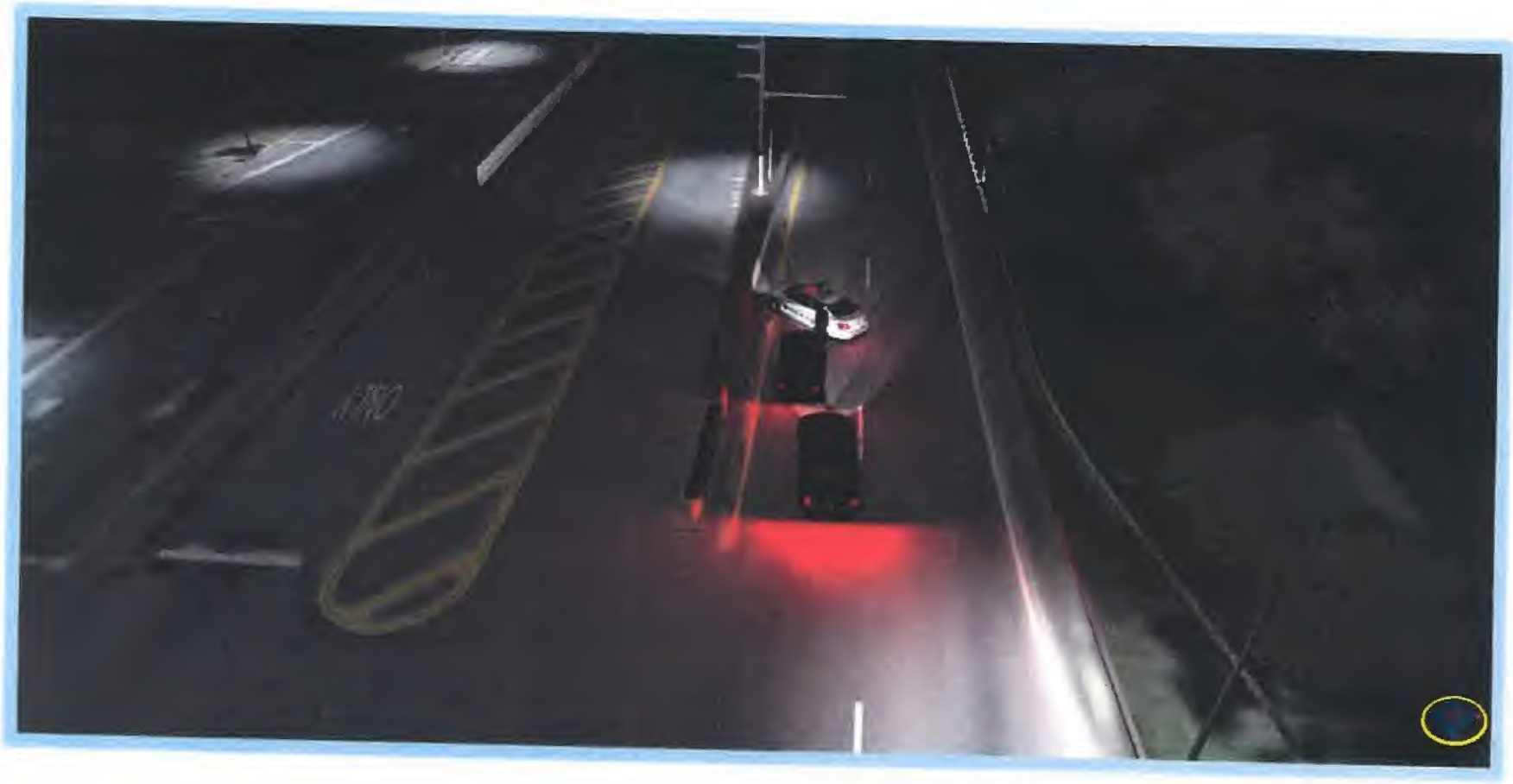


3D Forensic Still Image No. 6a, Report Page 9.

ATTORNEYS' EYES ONLY

ATTORNEYS' EYES ONLY

3D Forensic Still Image No. 6b, Report Page 10.



ATTORNEYS' EYES ONLY

3D Forensic Still Image No. 7a, Report Page 11.

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Department

CMVSC-18-IA-245

3D Forensic Still Image 7b, Report Page 12.

In the Matter of the Death of Edson Thevenin

Case Reference No. BC 38338, Troy (N.Y.) Police Department

CMVSC-18-IA-245

3D Forensic Still Image No. 49, Report Page 67.

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